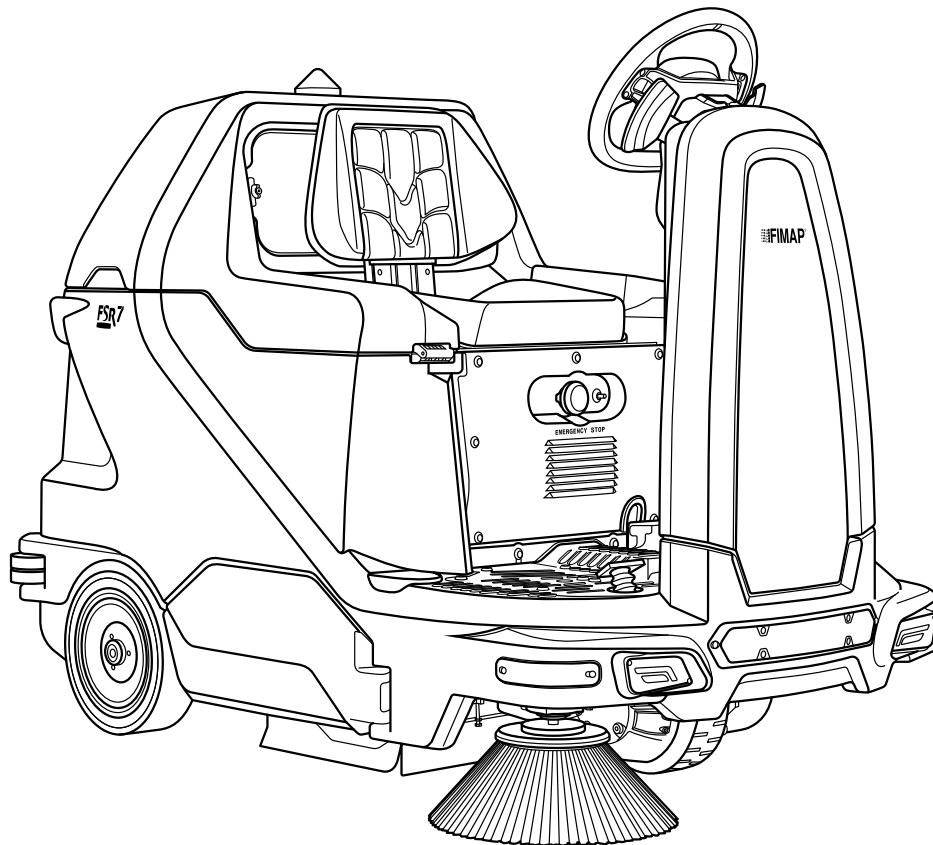


# FSR7 PLUS



PROFESSIONAL SWEEPING MACHINES

## *USE AND MAINTENANCE MANUAL*

 **FIMAP**<sup>®</sup>



TRANSLATION OF THE ORIGINAL INSTRUCTIONS DOC. 10124336 - Ver. AA - 07-2023





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## DEFINITION OF LEVELS OF WARNING

 **DANGER:** indicates an imminent dangerous situation that, unless avoided, will result in death or serious injuries.

 **WARNING:** Indicates a potentially dangerous situation that, unless avoided, could cause death or serious injury.

 **ATTENTION:** Indicates a potentially dangerous situation that, unless avoided, could cause slight or moderate injuries.

 **NB:** instructs the reader to pay particular attention to the topic that follows.

## GENERAL SAFETY REGULATIONS










Before using the machine, please read the following document carefully and follow the instructions contained herein, along with the instructions in the document supplied with the machine itself, "GENERAL SAFETY REGULATIONS" (document number 10083659).

## GENERAL DESCRIPTION

The descriptions contained in this document are not binding. The company therefore reserves the right to make any modifications at any time to elements, details, or accessory supply, as considered necessary for reasons of improvement or manufacturing/commercial requirements. The reproduction, even partial, of the text and drawings contained in this document is prohibited by law.

**The company reserves the right to make any technical and/or supply modifications. The images are for reference purposes only, and are not binding in terms of design and supply.**

## SYMBOLS USED IN THE MANUAL

	<b>Open book symbol with an "i":</b> Indicates the need to consult the instruction manual.
	<b>Open book symbol:</b> Tells the operator to read the user manual before using the device.
	<b>Covered place symbol:</b> The operations preceded by this symbol must always be carried out in a dry, covered area.
	<b>Information symbol:</b> Indicates additional information for the operator, to improve the use of the device.
	<b>Warning symbol:</b> Carefully read the sections preceded by this symbol meticulously following the instructions indicated for the safety of the operator and the device.
	<b>Danger symbol (moving carriages):</b> Indicates that the packed product should be handled with suitable carriages that conform to legal requirements.
	<b>Symbol indicating the compulsory use of protective gloves:</b> Indicates that the operator should always wear protective gloves, to avoid the risk of serious injury to his hands from sharp objects.
	<b>Recycling symbol:</b> Tells the operator to carry out the operations in compliance with environmental regulations in force in the place where the appliance is being used.
	<b>Disposal symbol:</b> Carefully read the sections marked with this symbol for disposing of the appliance.

## TECHNICAL DESCRIPTION



The **FSR7** is a ride-on sweeping machine powered by batteries with an output voltage of 24V. It is designed to clean tiled, cement or tarred flooring, both indoors and outdoors.


The **FSR7** must be used on dry surfaces, but can also work on wet surfaces if necessary as long as the vacuum is not activated.


This sweeping machine features a central brush for collecting brushed-up material, one or two side brushes for cleaning along edges and in corners, a vacuum system with filter to avoid raising dust, and a debris hopper that is moved manually by the operator.

**The machine must be used only for this purpose.**

## INTENDED USE

This machine is designed and built to clean both indoor and outdoor flooring surfaces in tile, cement and asphalt. They are intended exclusively for professional use by a qualified operator in industrial, commercial and public contexts, in guaranteed safe conditions.

 **ATTENTION:** the sweeping machine is not designed to clean carpets or rugs. It is not suitable for use in closed places and should be used in open but covered areas (it must not be used in the rain or underneath jets of water).

 **IT IS FORBIDDEN:** to use the sweeping machine in places with an explosive atmosphere or to collect hazardous dust or inflammable liquids. In addition, it must not be used for transporting people or objects.

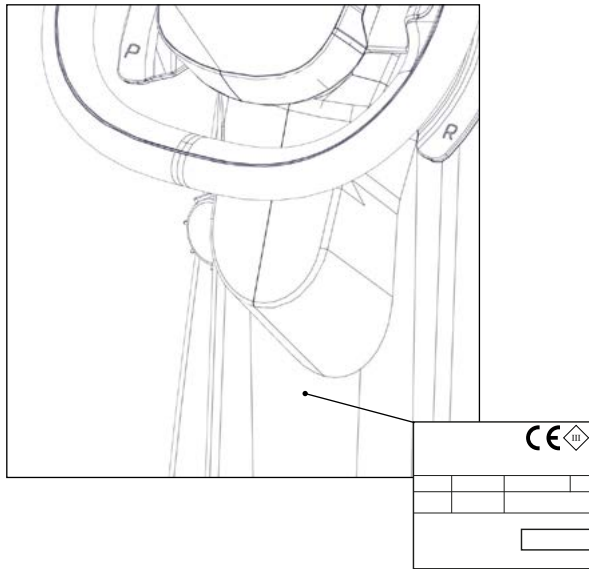
## SAFETY

Operator cooperation is paramount for accident prevention. No accident prevention programme can be effective without the full cooperation of the person directly responsible for machine operation. The majority of occupational accidents that happen either in the workplace or whilst moving are caused by failure to respect the most basic safety rules. An attentive, careful operator is most effective guarantee against accidents and is fundamental in order to implement any prevention programme.

## REGULATIONS

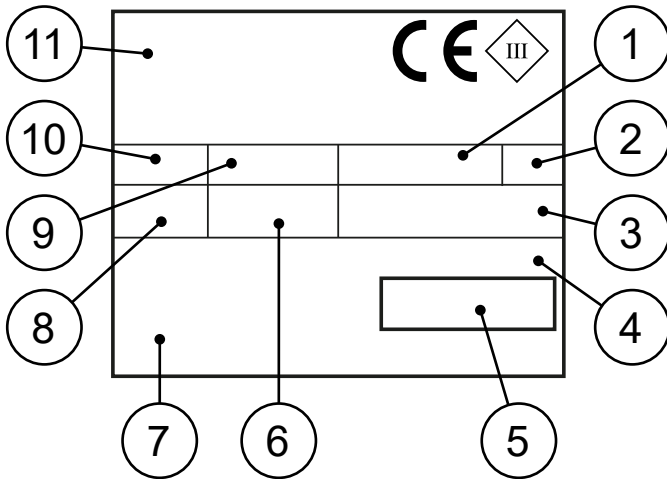
All references to forwards and backwards, front and rear, right and left indicated in this manual should be understood as referring to the operator in a driving position with his hands on the steering wheel.

**SERIAL NUMBER PLATE**



The serial number plate is located near the driver's seat, at the rear of the steering column, and indicates the machine's general characteristics, including its serial number. The serial number is a very important piece of information and should always be provided together with any request for assistance or when purchasing spare parts. The serial number plate contains the following information:

1. The weight of the batteries that power the machine (expressed in kg).
2. The IP protection rating of the machine.
3. The value, in kg, of the GVW (Gross Vehicle Weight). See ["TECHNICAL DATA" on page 15.](#)
4. The machine ID code.
5. The machine serial number.
6. The machine ID name.
7. The value, expressed in W, of the nominal power used by the machine. See ["TECHNICAL DATA" on page 15.](#)
8. The value, expressed in %, of the maximum gradeability during work. See ["TECHNICAL DATA" on page 15.](#)
9. The year of machine manufacture.
10. The value, expressed in V, of the nominal voltage used by the machine. See ["TECHNICAL DATA" on page 15.](#)
11. The commercial name of the machine, and the manufacturer's address.

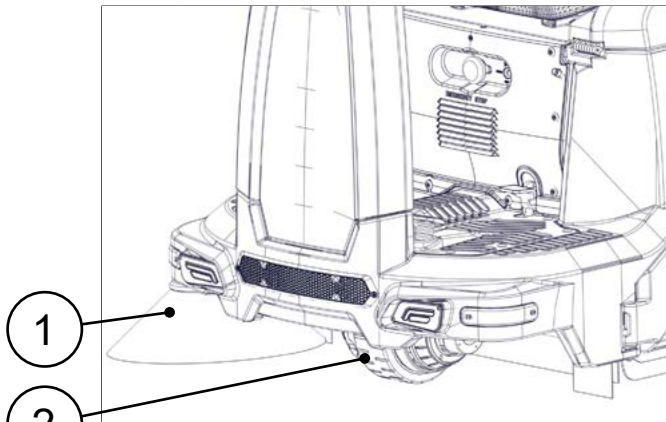


Fill in the following table at the time of delivery and/or installation, so it can be used as a future reference when necessary.

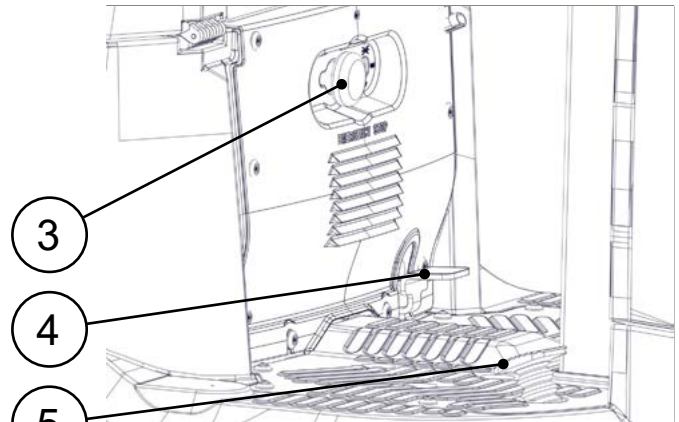
<b>MACHINE ID NAME</b>	
<b>SERIAL NUMBER</b>	
<b>DATE OF DELIVERY AND/ OR INSTALLATION</b>	

# MAIN MACHINE COMPONENTS

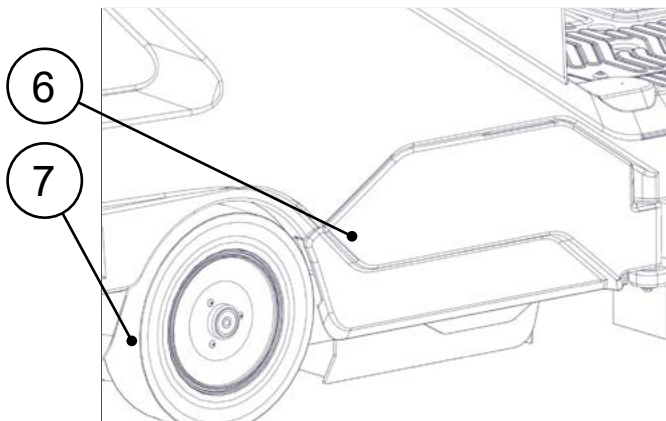
## STANDARD COMPONENTS



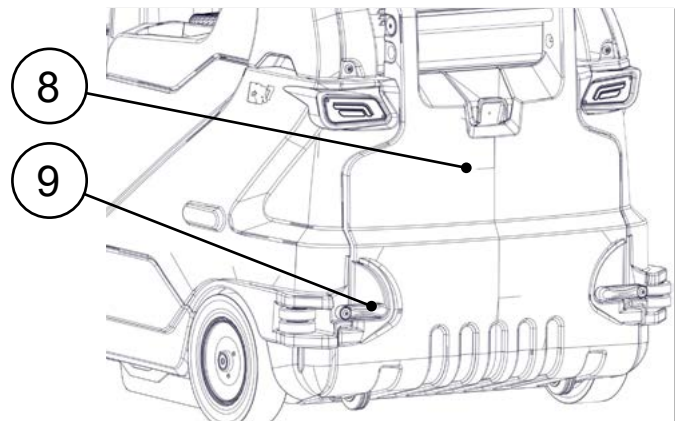
- 1 Right side brush
- 2 Traction wheel



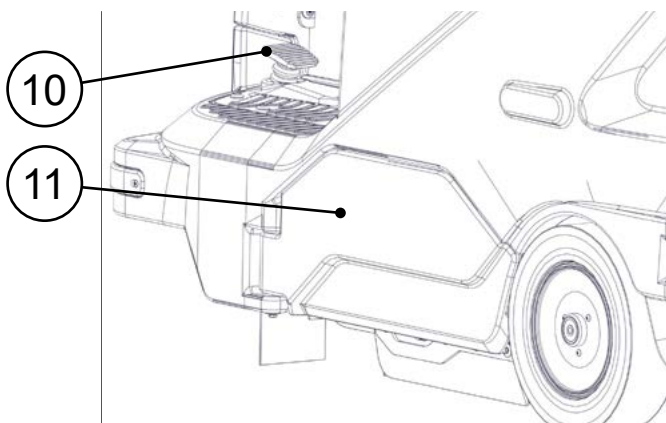
- 3 Battery cut-out button
- 4 Front flap lifting pedal
- 5 Accelerator pedal



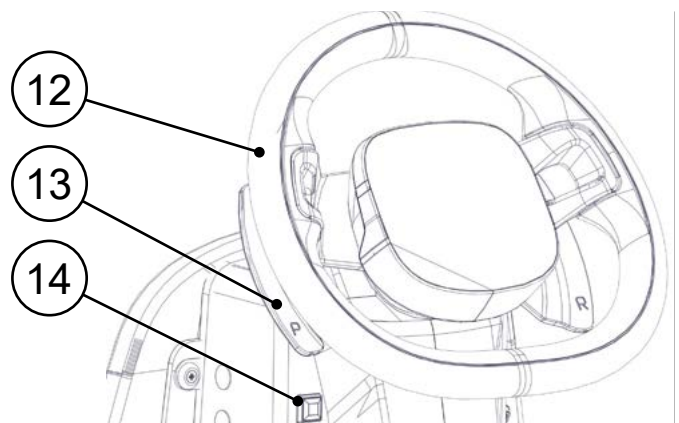
- 6 Right-hand maintenance carter
- 7 Rear wheel



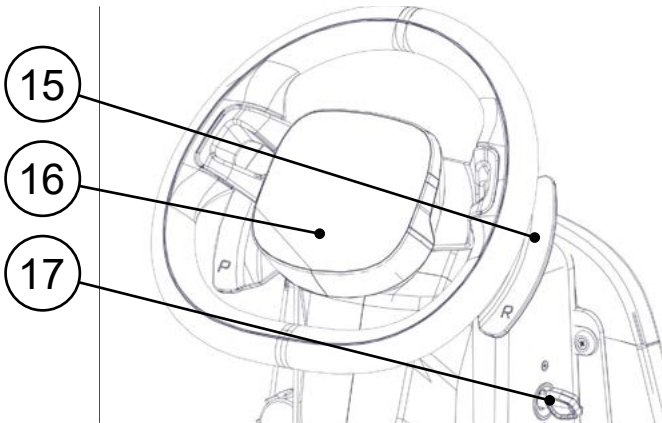
- 8 Debris hopper
- 9 Debris hopper retainer lever



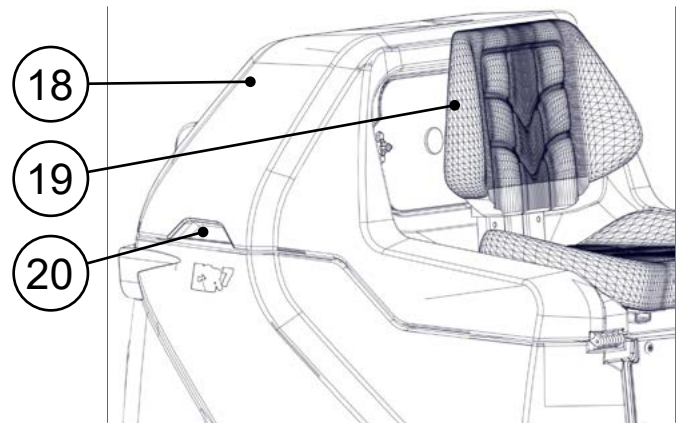
- 10 Service brake pedal
- 11 Left-hand maintenance carter



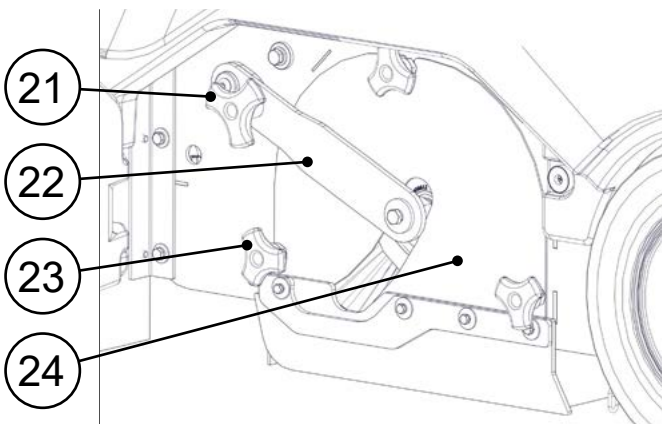
- 12 Steering wheel
- 13 Activation lever for extra-pressure function (central brush)
- 14 Horn button



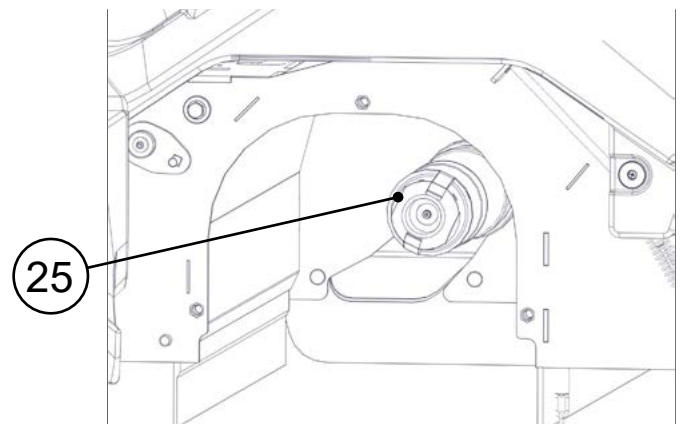
- 15 Reverse activation lever
- 16 Control display
- 17 Main machine switch



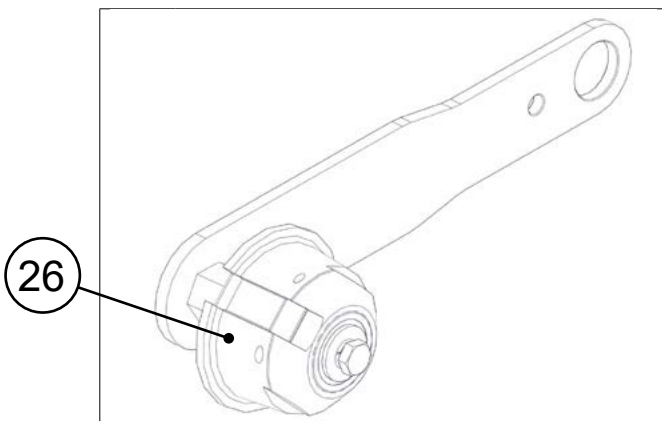
- 18 Upper body
- 19 Operator's seat
- 20 Upper body rotation handle



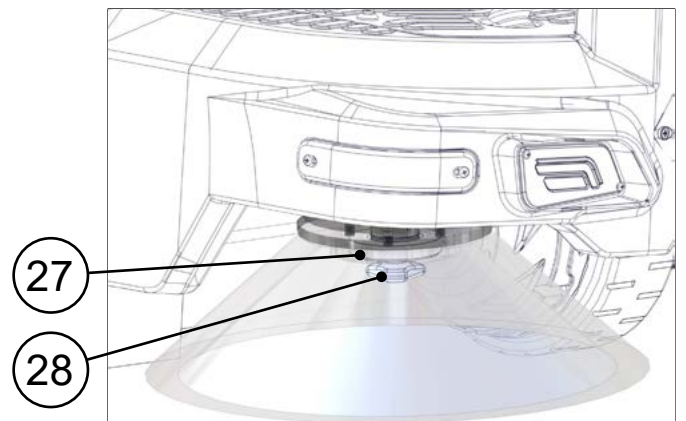
- 21 Locking knob for central brush lifting lever
- 22 Central brush lifting lever
- 23 Locking knob for central brush side inspection carters
- 24 Central brush side inspection carters



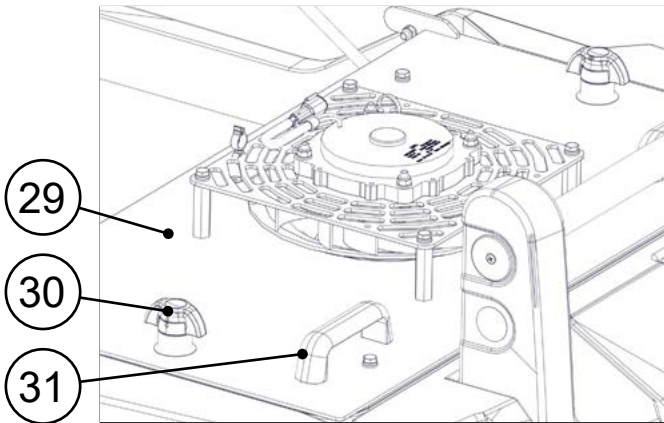
- 25 Central brush towing hook



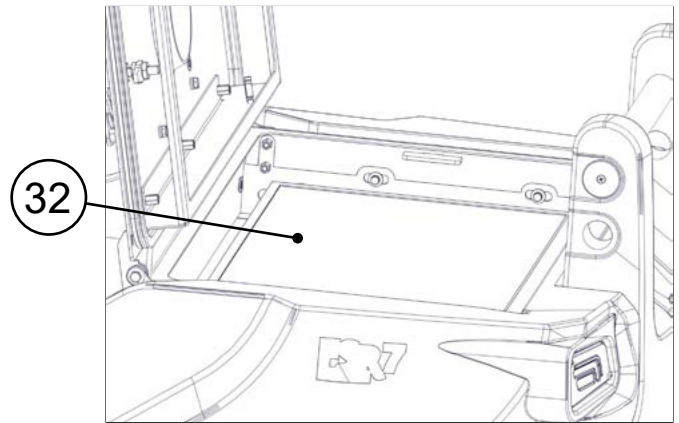
- 26 Central brush idle hook



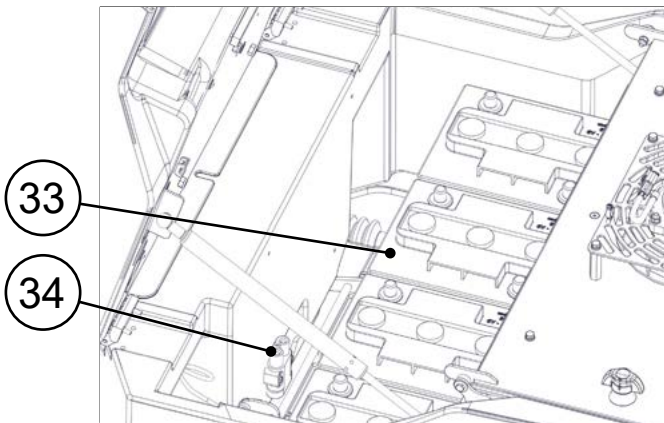
- 27 Side brush retainer plate
- 28 Side brush locking knob



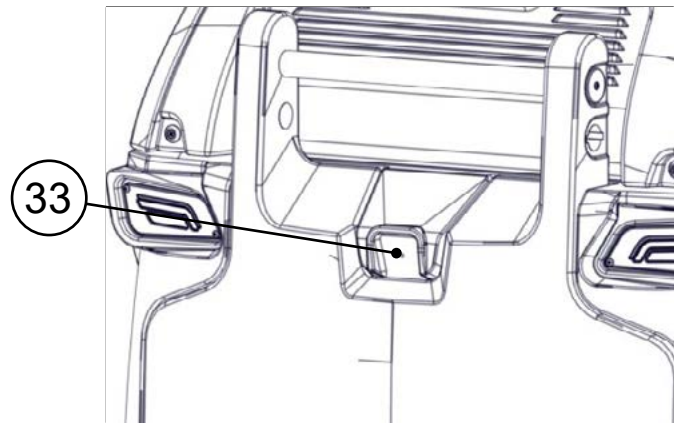
- 29 Vacuum compartment cover
- 30 Vacuum compartment cover locking knob
- 31 Vacuum compartment cover rotation handle



- 32 Panel filter

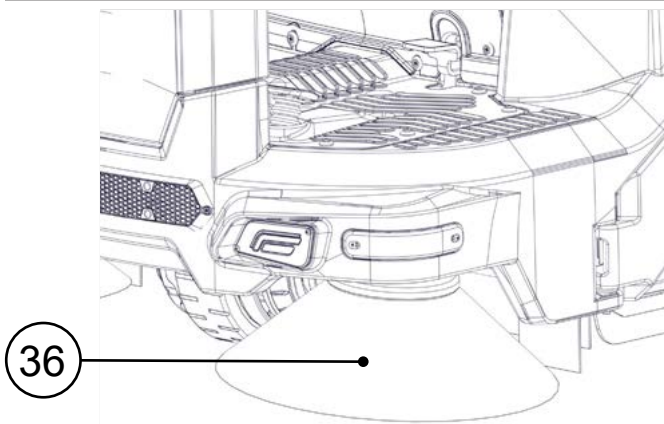


- 33 Battery compartment
- 34 Battery cable connector (version without on-board battery charger)

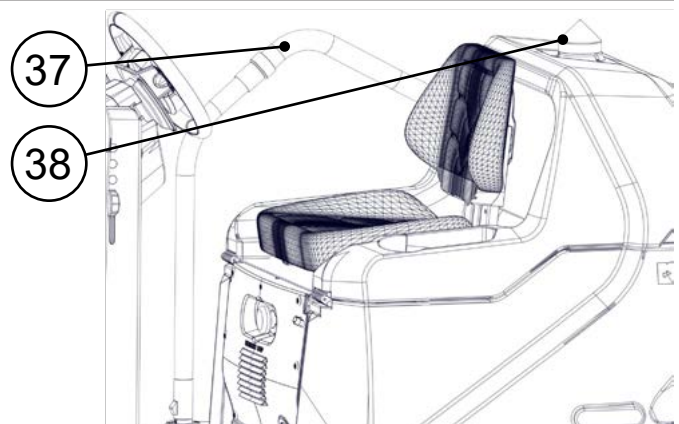


- 35 Rear view video camera

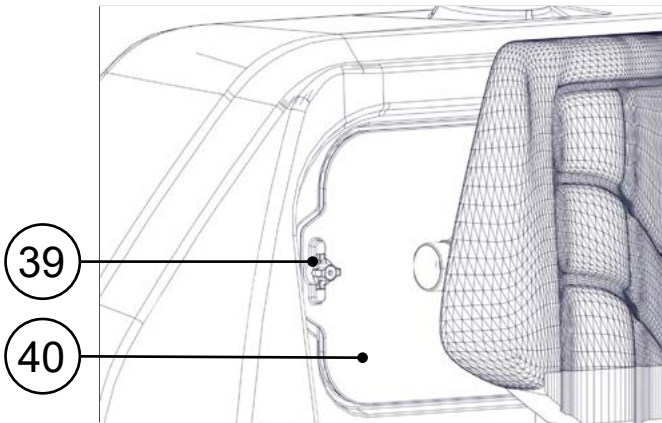
**OPTIONAL COMPONENTS**



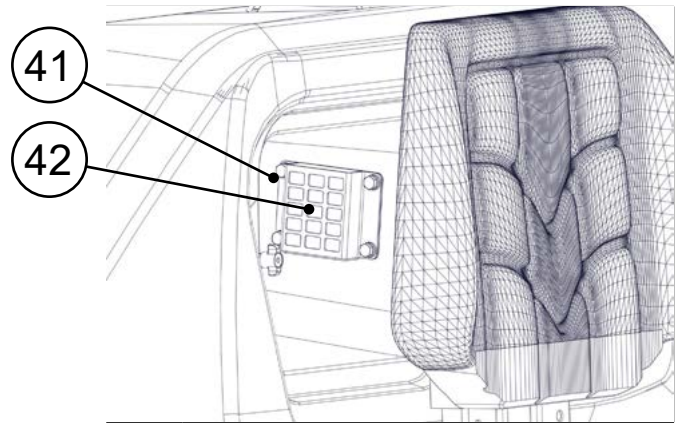
- 36 Left side brush



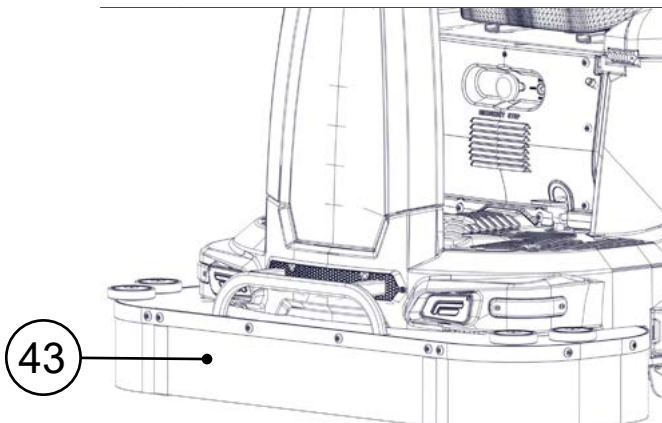
- 37 Integrated vacuum cleaner kit
- 38 Blinking light



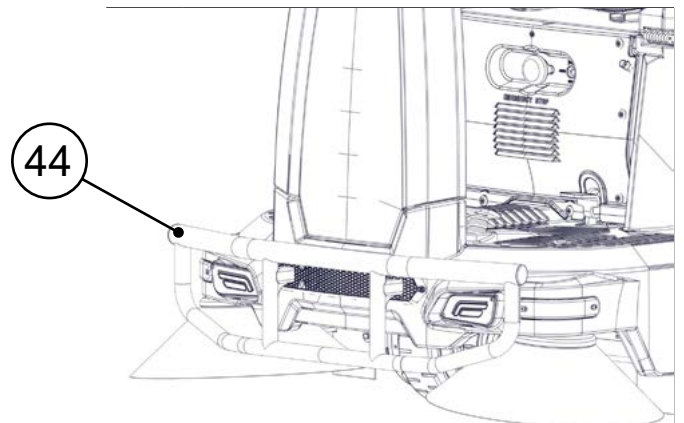
- 39 Locking knob for compartment cover of the filter bag in the integrated vacuum cleaner kit
- 40 Compartment cover of the filter bag in the integrated vacuum cleaner kit



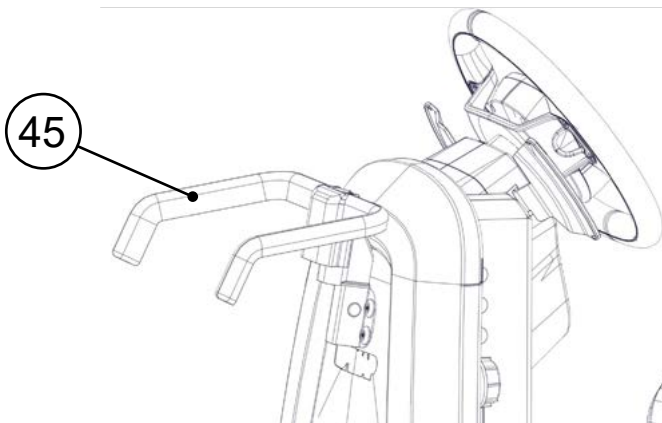
- 41 Support for the motor inlet air filter in the integrated vacuum cleaner kit
- 42 Motor inlet air filter in the integrated vacuum cleaner kit



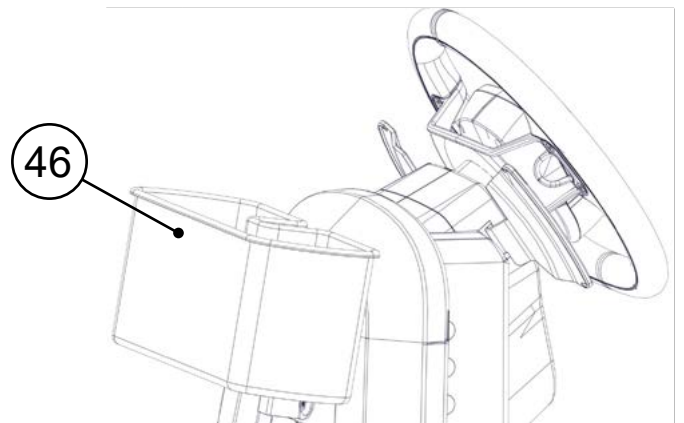
- 43 Front anti-dust skirt



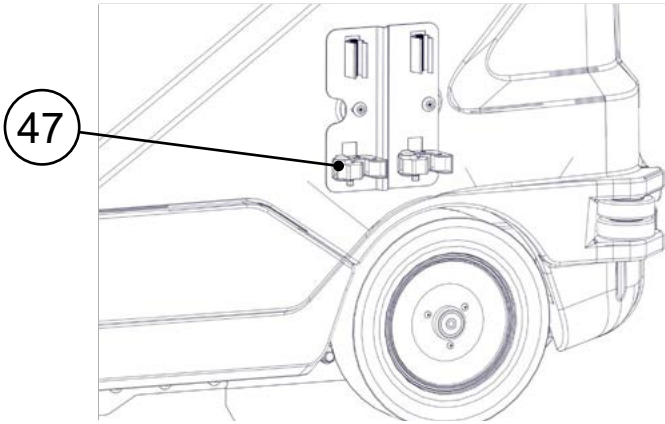
- 44 Front bumper kit



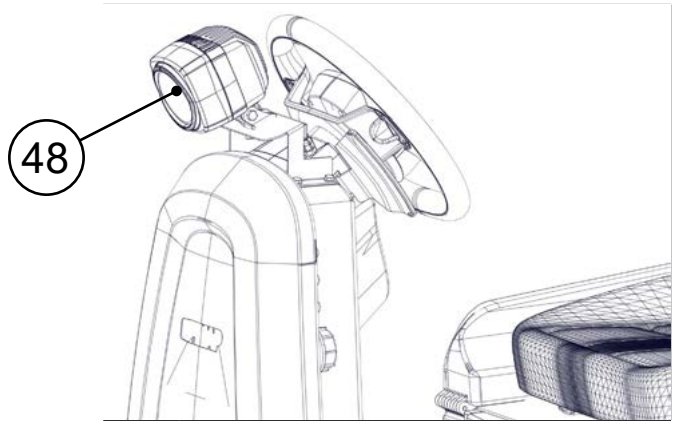
- 45 Support for bag of the cleaning accessory kit



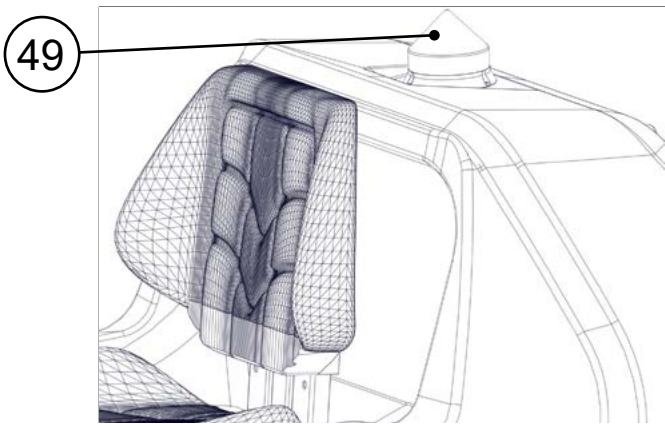
- 46 Support basin for bottles in the cleaning accessory kit



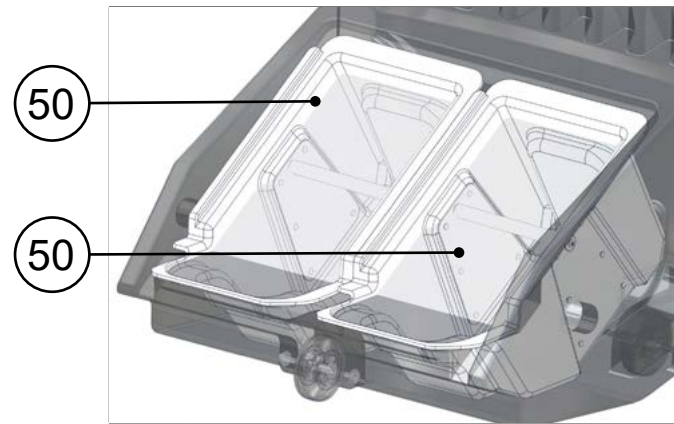
47 Support for brushes in the cleaning accessory kit



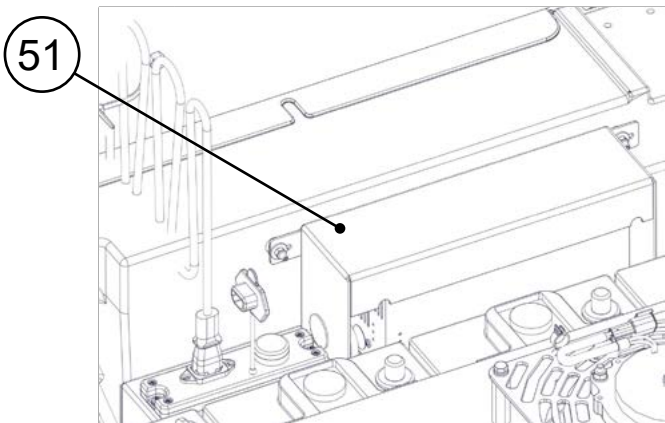
48 "Blue spot" safety light kit



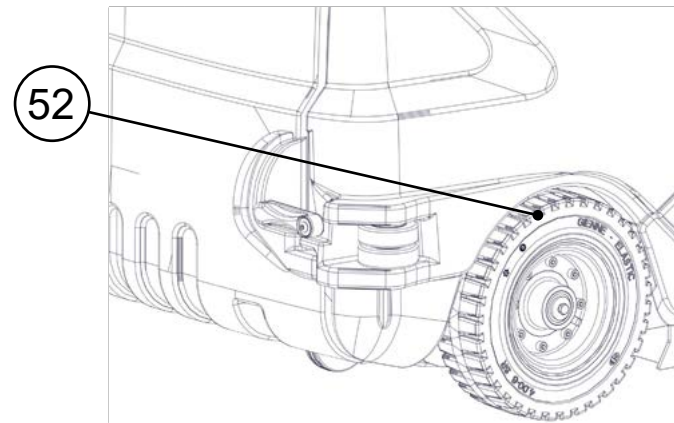
49 Blinking LED safety light kit



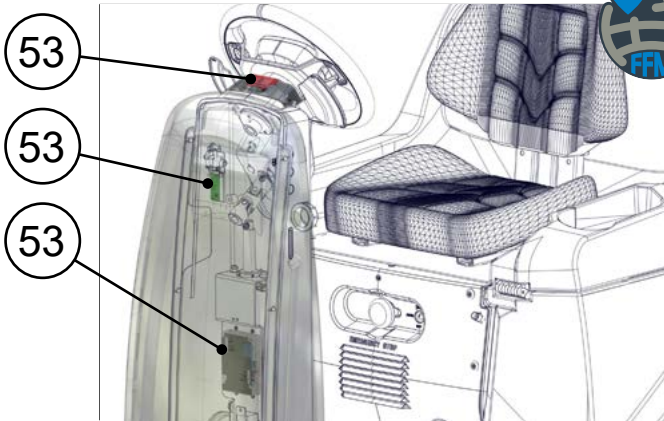
50 Kit of internal debris hopper containers



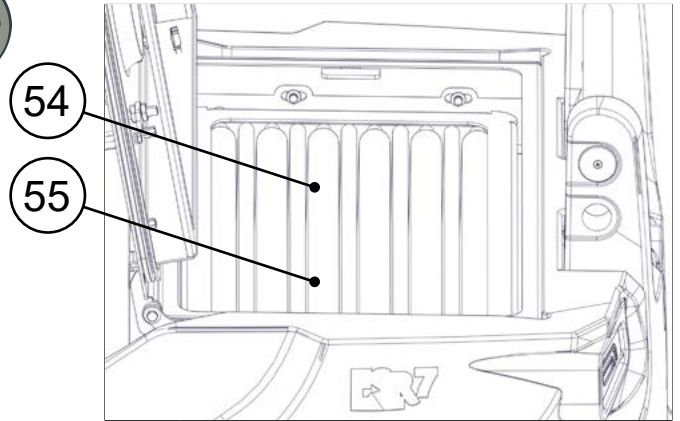
51 On-board battery charger kit



52 Super-elastic wheel kit

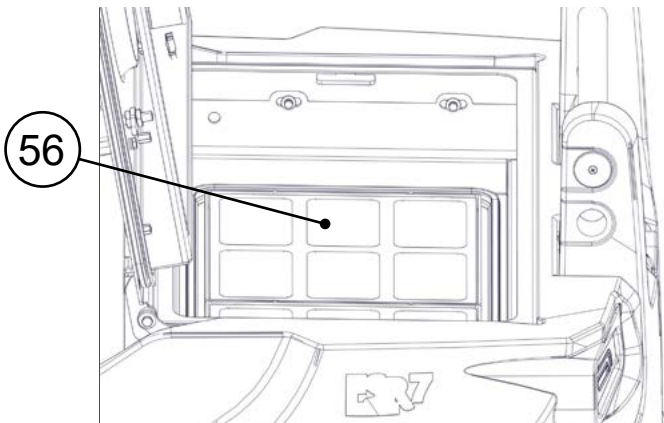


53 Automatic fleet management kit (FFM)

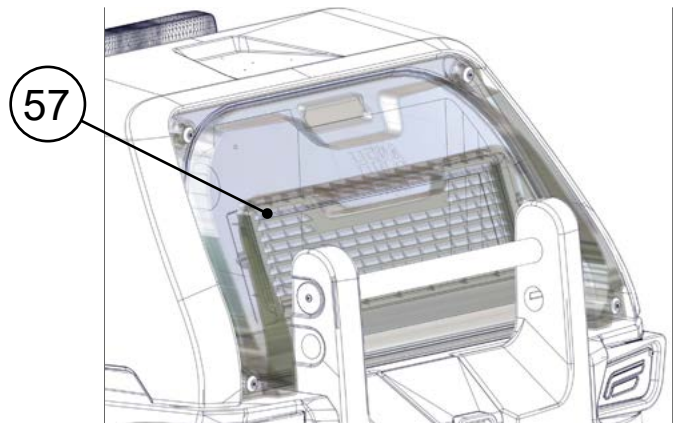


54 Pocket filter kit (FELT PE/PE 401 STANDARD)

55 Pocket filter kit (ANTISTATIC POLYESTER FELT WITH PTFE MEMBRANE)



56 Fluff retainer grille kit




57 HEPA outlet air filter kit

## TECHNICAL DATA

TECHNICAL DATA	UM [SI]	FSR7 PLUS
Rated voltage <small>[IEC 60335-2-72; IEC 62885-9]</small>	V	24
Nominal input power <small>[IEC 60335-2-72; IEC 62885-9]</small>	KW	1.9
Working gradeability with GVW <small>[IEC 60335-2-72; IEC 62885-9]</small>	%	12.5
Machine working weight (gross weight - GVW) <small>[IEC 60335-2-72; IEC 62885-9]</small>	kg	685
Weight during transport <small>[IEC 60335-2-72; IEC 62885-9]</small>	kg	420
Machine dimensions during working phase <small>(length; height; width)</small>	mm	1610 1290 1020
Operator station sound pressure level (L <sub>pA</sub> ) <small>[IEC 60335-2-72; IEC 62885-9; ISO 11201]</small>	dB (A)	69
Sound power level (L <sub>w</sub> ) <small>[IEC 60335-2-72; IEC 62885-9; ISO 3744]</small>	dB (A)	85.8
Uncertainty K <sub>pA</sub>	dB (A)	±1.5
Hand-arm vibrations <small>[IEC 60335-2-72; IEC 62885-9; ISO 5349-1]</small>	m/s <sup>2</sup>	1.34
Whole-body vibrations <small>[IEC 60335-2-72; IEC 62885-9; ISO 2631-1]</small>	m/s <sup>2</sup>	0.3
Vibration measurement uncertainty		±4%

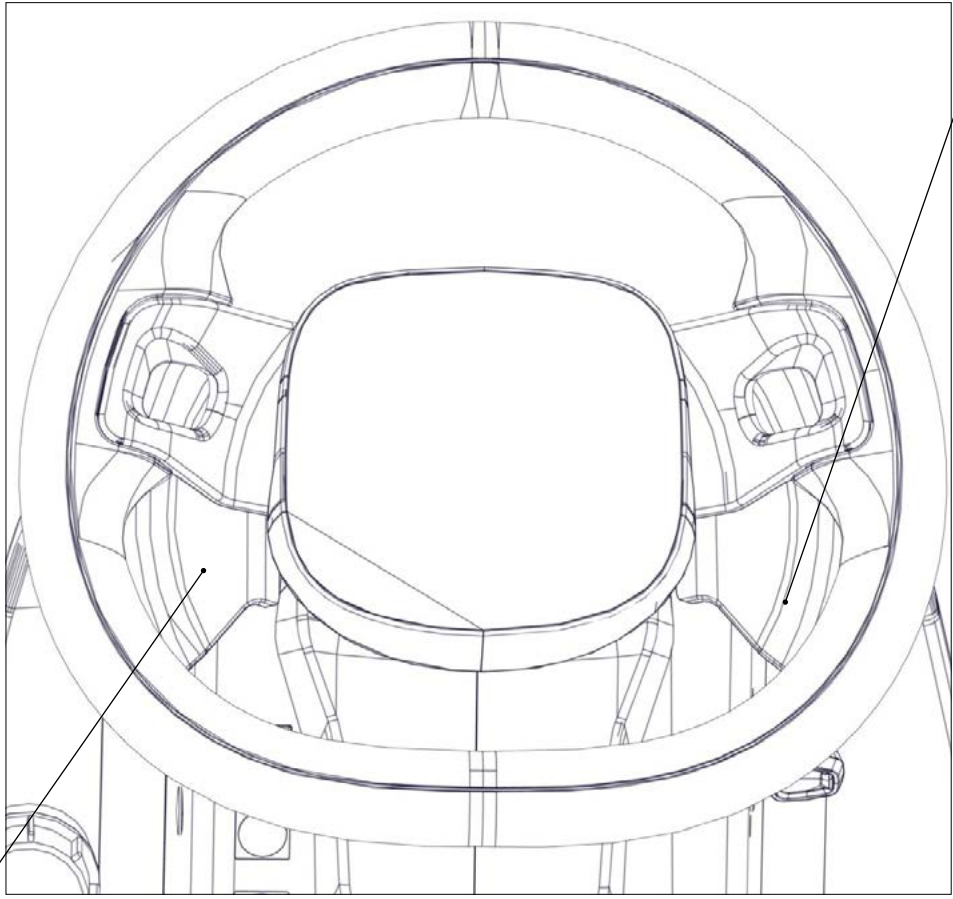
TECHNICAL DATA	UM [SIB]	FSR7 PLUS
Rated voltage <small>[IEC 60335-2-72; IEC 62885-9]</small>	V	24
Nominal input power <small>[IEC 60335-2-72; IEC 62885-9]</small>	KW	1.9
Working gradeability with GVW <small>[IEC 60335-2-72; IEC 62885-9]</small>	%	12.5
Machine working weight (gross weight - GVW) <small>[IEC 60335-2-72; IEC 62885-9]</small>	lb	1510.17
Weight during transport <small>[IEC 60335-2-72; IEC 62885-9]</small>	lb	925.94
Machine dimensions during working phase <small>(length; height; width)</small>	in	63.38 50.78 40.15
Operator station sound pressure level (L <sub>pA</sub> ) <small>[IEC 60335-2-72; IEC 62885-9; ISO 11201]</small>	dB (A)	69
Sound power level (L <sub>w</sub> ) <small>[IEC 60335-2-72; IEC 62885-9; ISO 3744]</small>	dB (A)	85.8
Uncertainty K <sub>pA</sub>	dB (A)	±1.5
Hand-arm vibrations <small>[IEC 60335-2-72; IEC 62885-9; ISO 5349-1]</small>	m/s <sup>2</sup>	1.34
Whole-body vibrations <small>[IEC 60335-2-72; IEC 62885-9; ISO 2631-1]</small>	m/s <sup>2</sup>	0.3
Vibration measurement uncertainty		±4%

 **NB:** for all other technical data, contact the FIMAP service centre of reference or the one closest to you, or visit the website [www.fimap.com](http://www.fimap.com).

## SYMBOLS USED ON THE MACHINE

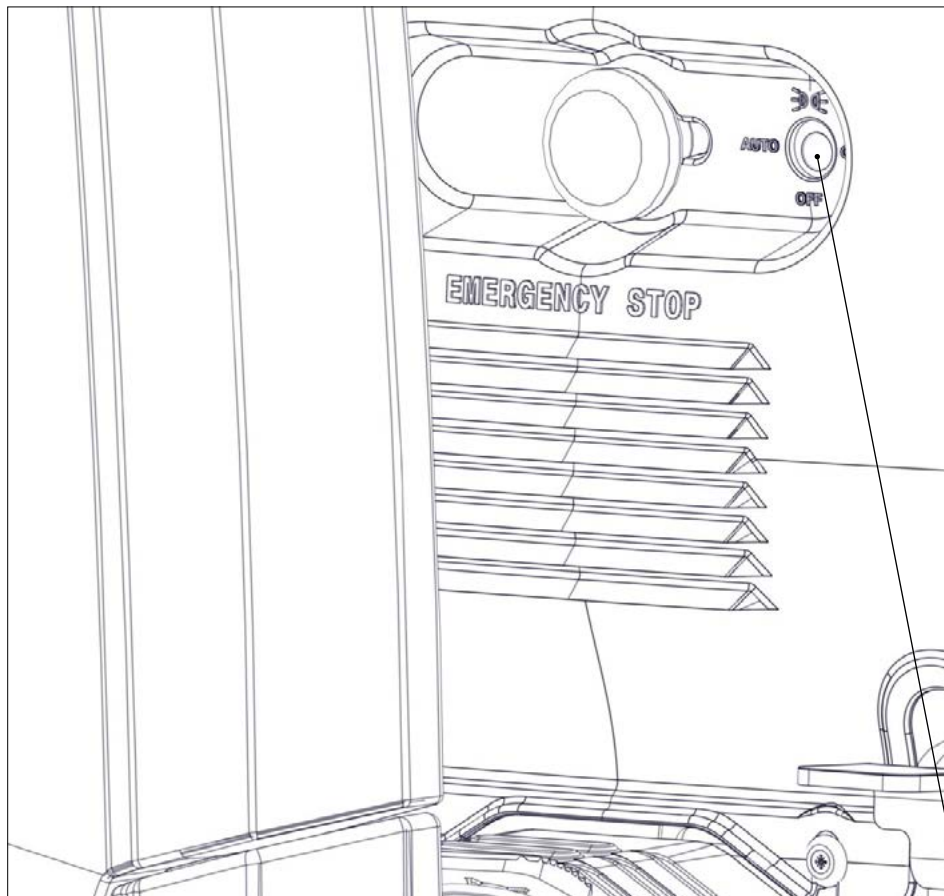
**Reverse gear activation/deactivation lever position symbol:**  
applied to the reverse activation/deactivation lever. See [“REVERSE” on page 60](#).

**R**



**P**

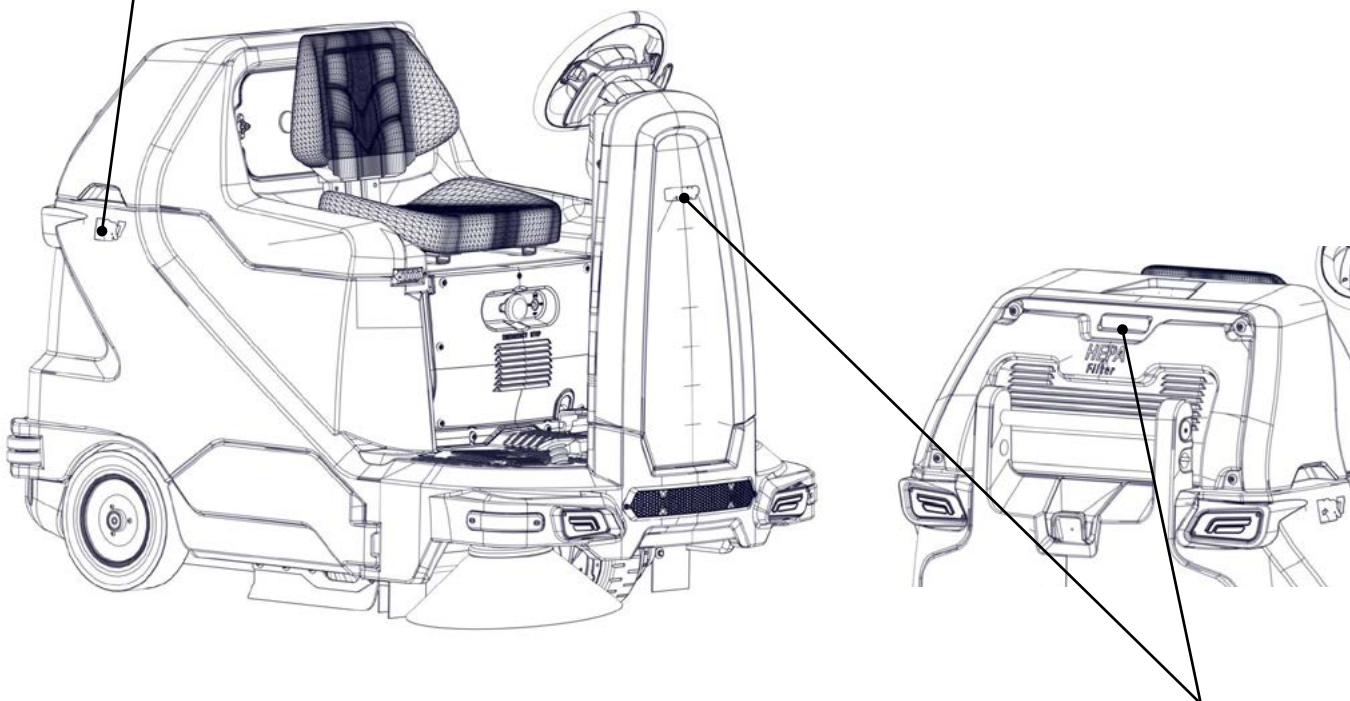
**Extra pressure activation/deactivation lever position symbol:**  
Used on the extra brush head pressure activation-deactivation lever. See [“POWER MODE WORKING PROGRAM” on page 44](#)





<p><b>AUTO</b></p>	<p><b>“AUTO” symbol on blinking light selector lever:</b>          applied to the carter of the electric system panel, to show where to position the blinking light control lever so the LEDs switch on automatically when the microswitches that command them are deactivated. See <a href="#">“SERVICE LIGHTS” on page 57.</a></p>
<p><b>OFF</b></p>	<p><b>“OFF” symbol on blinking light selector lever:</b>          applied to the carter of the electric system panel, to show where to position the blinking light control lever so the LEDs are always switched off. See <a href="#">“SERVICE LIGHTS” on page 57.</a></p>
<p><b>ON</b></p>	<p><b>“ON” symbol on blinking light selector lever:</b>          applied to the carter of the electric system panel, to show where to position the blinking light control lever so the LEDs are always switched on. See <a href="#">“SERVICE LIGHTS” on page 57.</a></p>

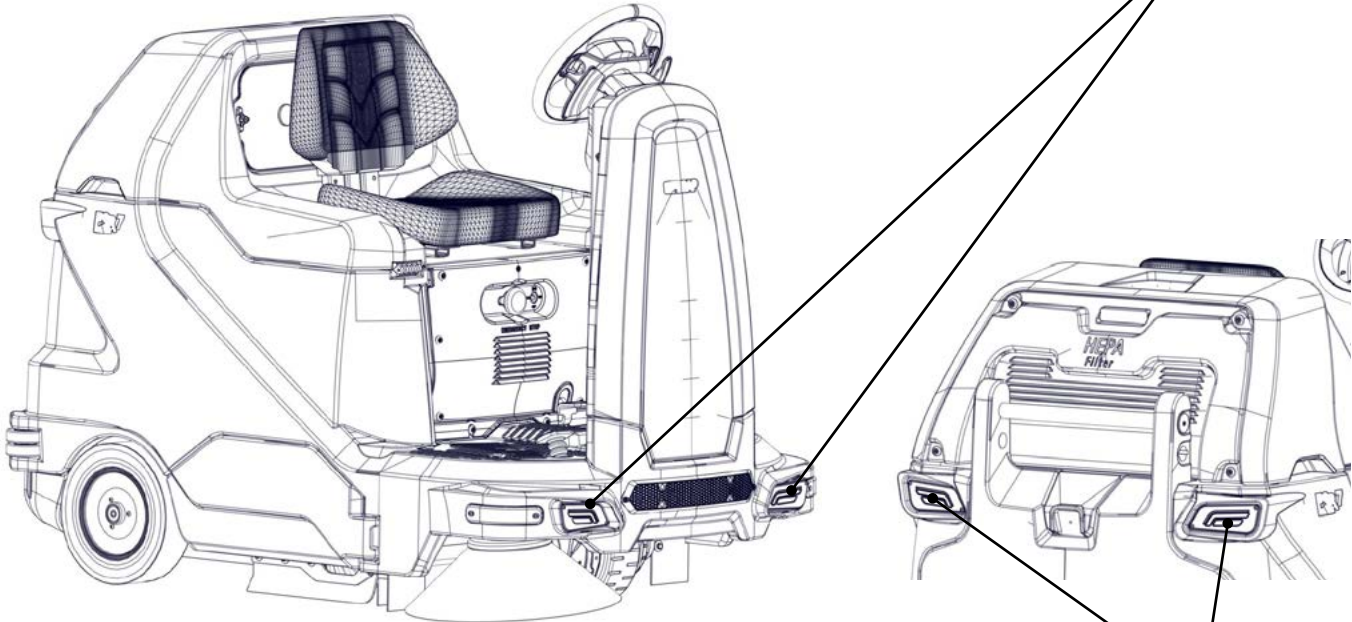
**LABELS USED ON THE MACHINE**

	<p>Label with raised FSR7 logo</p>
	<p>Side label with FIMAP logo</p>
	<p>Label with raised PLUS logo</p>

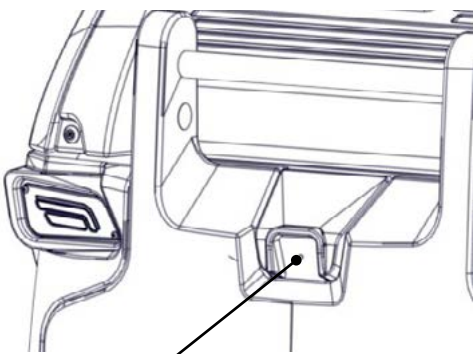


<p>Label with FIMAP logo</p>	
<p>Label with FFM logo: used to show that the automatic fleet management system is installed on the machine. See <a href="#">"TAG INSERTION"</a> on page 65.</p>	

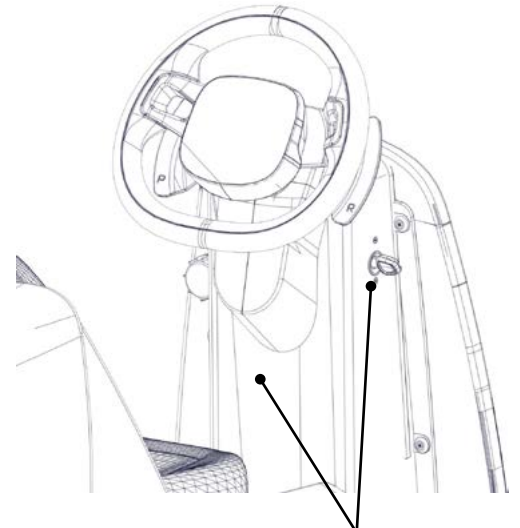
**Covering labels for LED headlights:** used on the machine versions with no LEDs in the working lights kit.



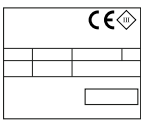


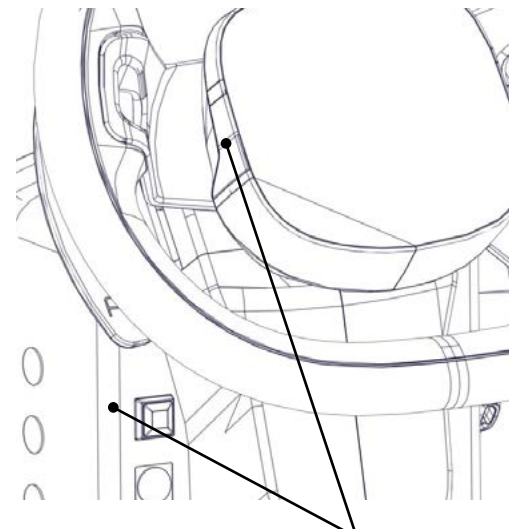
**Covering labels for LED tail-lights:** used on the machine versions with no LEDs in the working lights kit.





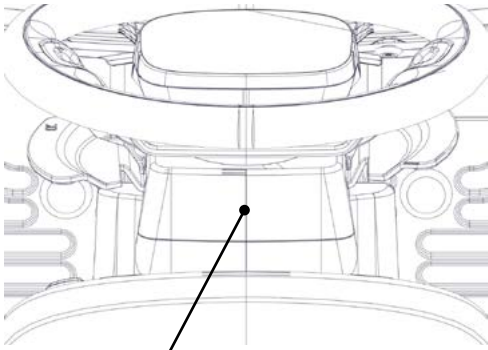
**Labels with FIMAP logo:** used on the machine versions with no rear view camera.




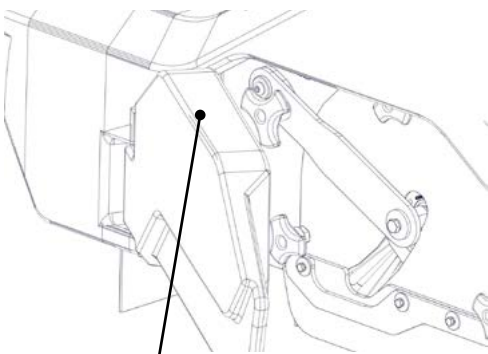
<p><b>Main machine switch label:</b> applied on the right side of the steering column, to indicate the location of the machine's main switch.</p>	
<p><b>Prohibition to vacuum hazardous elements label:</b> applied to the back of the steering column to indicate that it is strictly prohibited to vacuum up incandescent particles or flammable and/or explosive powders and/or liquids with the machine, and to operate the machine in their vicinity.</p>	
<p><b>Serial number plate:</b> applied to the back of the steering column. Shows the general machine characteristics, including the serial number. See <a href="#">"SERIAL NUMBER PLATE" on page 8.</a></p>	




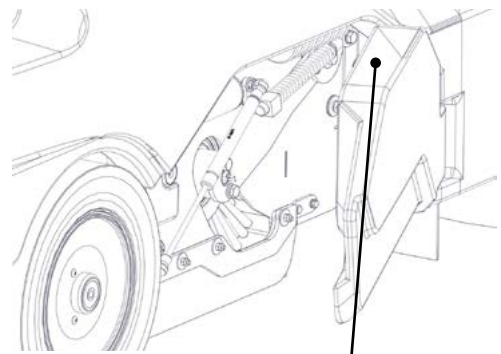
<p><b>Horn button label:</b> applied to the left side of the steering column to identify the machine's horn button.</p>	
<p><b>Label indicating the need to read the Use and Maintenance Manual:</b> applied on the left side of the steering column, to indicate the need for the user to read the user and maintenance manual before operating the machine.</p>	




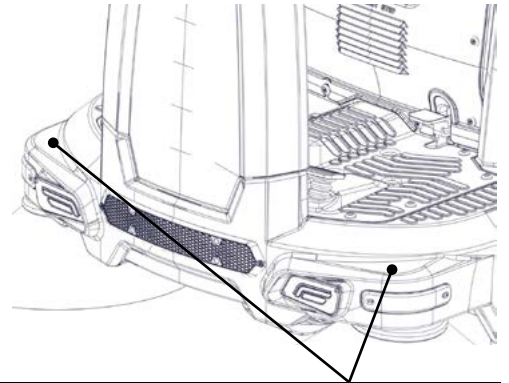
 **Label indicating the need to read the Use and Maintenance Manual:** applied to the front of the steering column to indicate the need for the user to read the user and maintenance manual before operating the machine.



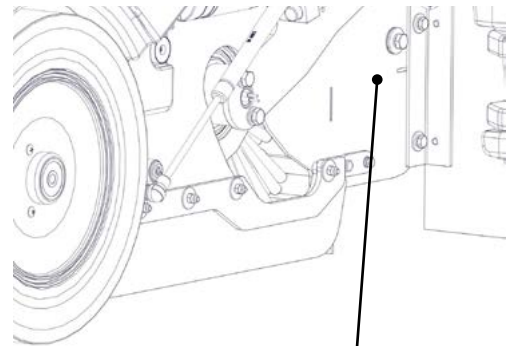
 **Treading ban label:** applied above the side inspection doors, to identify the surfaces that must not be trodden on (risk of personal injury or damage to the machine).



**Treading ban label:** applied above the side inspection doors, to identify the surfaces that must not be trodden on (risk of personal injury or damage to the machine). 



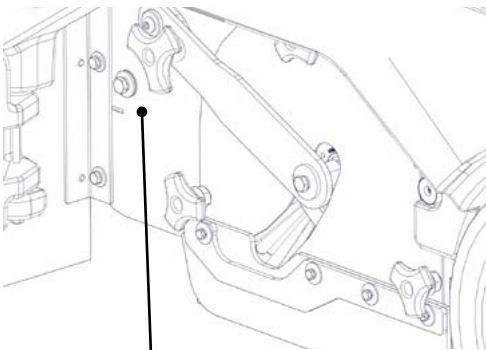
**Treading ban label:** applied to the front part of the machine body, to identify the surfaces that must not be trodden on (risk of personal injury or damage to the machine).



**Label indicating that touching the brush when moving is prohibited:** applied on the right side of the frame, to indicate that it is forbidden to bring your hands near the central brush control linkage while the brush is moving.

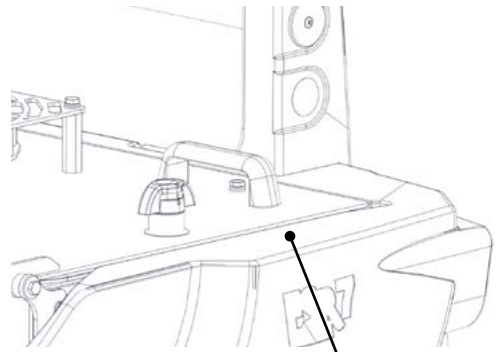


Do not go next to the brush head while the brush is moving.

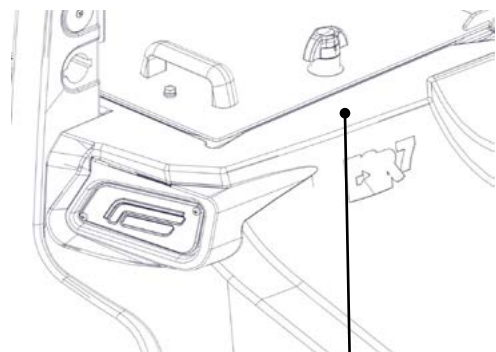


Do not go next to the brush head while the brush is moving.

**Label indicating that touching the brush when moving is prohibited:** applied on the left side of the frame, to indicate that it is forbidden to bring your hands near the central brush control linkage while the brush is moving.



**Label warning about the risk of crushed hands:** applied on the left side of the machine body (in the area where the vacuum head is housed), to indicate the areas where there is a risk of getting your hands crushed.

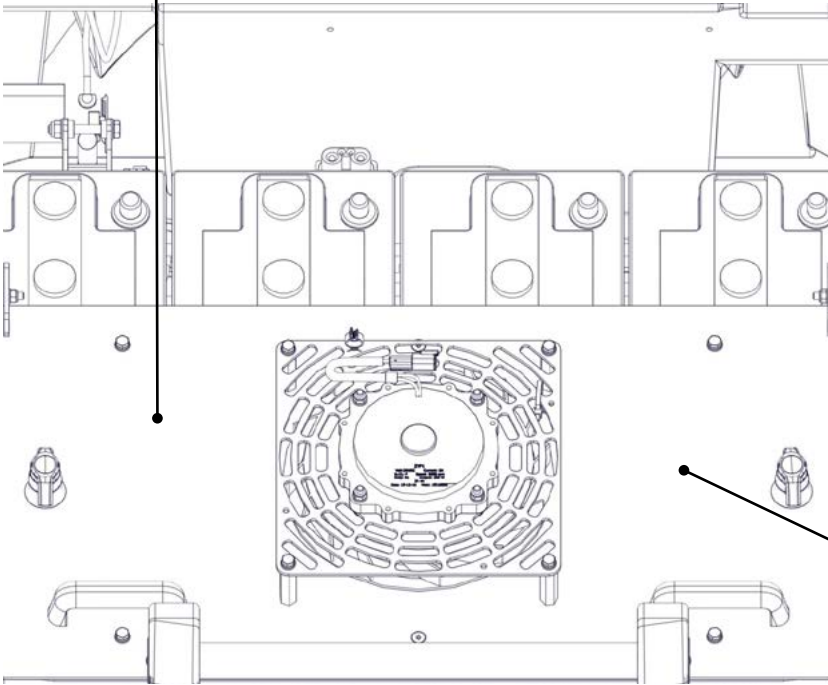


**Label warning about the risk of crushed hands:** applied on the right side of the machine body (in the area where the vacuum head is housed), to indicate the areas where there is a risk of getting your hands crushed.





**Battery box warning label:** applied to the vacuum area cover plate, to indicate that the cells might emit highly flammable hydrogen gas during the recharging phase. See [“RECHARGING THE BATTERIES”](#) on page 33.



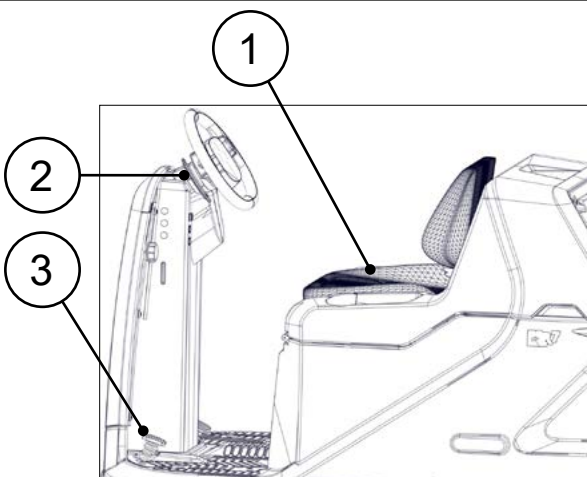
**Battery box charging instructions label:** applied to the vacuum area cover plate, to indicate the procedures to be followed to recharge the battery box correctly. See [“RECHARGING THE BATTERIES”](#) on page 33.



**Vacuum motor filter maintenance label:** applied to the inner part of the recovery tank cover, to indicate that maintenance must be carried out on the vacuum motor filter after every use of the machine. See [“CLEANING THE PANEL FILTER”](#) on page 76 or [“CLEANING THE POCKET FILTER \(OPTIONAL\)”](#) on page 77.



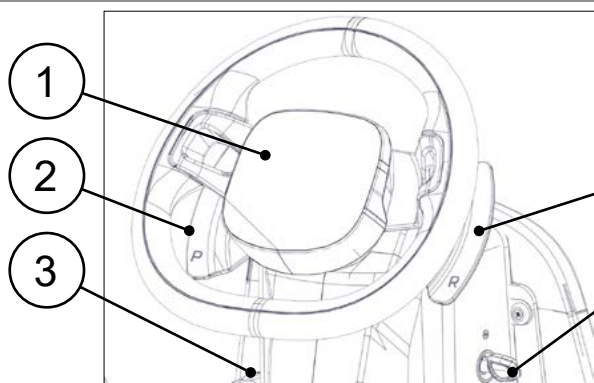
## CONTROL STATION



The machine has an easy and user-friendly control station, comprised of mainly the following:

1. Driver's seat. To adjust the seat, refer to [“ADJUSTING THE DRIVING POSITION”](#) on page 35.
2. Dashboard. See [“DASHBOARD”](#) on page 25.
3. Pedalboard. See [“PEDALBOARD”](#) on page 27.

## DASHBOARD



The dashboard, in the steering column area, is divided up as follows:

1. Control display. See [“CONTROL DISPLAY” on page 25.](#)
2. POWER working program activation-deactivation lever. See [“POWER MODE WORKING PROGRAM” on page 44.](#)
3. Horn button.
4. Reverse activation/deactivation lever. See [“REVERSE” on page 60.](#)
5. Key-operated main machine switch.

## CONTROL DISPLAY

With the control display located on the machine control panel, it is possible to access essential information to make more accurate selections and increase the professionalism of interventions, which increases productivity and reduces costs..

All the tasks are managed using a simple user interface; intuitive and dynamic, simply touch the screen to have the same intuitive sensation as a smartphone.

The “MAIN” screen is divided as follows:



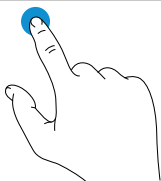
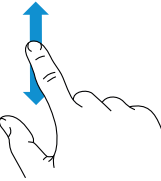
1. FFM system active symbol. See [“TAG INSERTION” on page 65.](#)
2. Vacuum wand active symbol. See [“VACUUM WAND” on page 67.](#)
3. Working headlights active symbol. See [“WORKING HEADLIGHTS” on page 57.](#)
4. Hour meter. See [“HOUR METER” on page 52.](#)
5. ECO MODE working program active icon. See [“ECO MODE WORKING PROGRAM” on page 40.](#)
6. Battery box charge level indicator. See [“BATTERY BOX CHARGE LEVEL INDICATOR” on page 51.](#)

7. Generic alarm symbol. If displayed, stop the machine and refer to [“ALARM SCREEN” on page 62](#).
8. Working mode selector. See [“WORKING MODE” on page 45](#).
9. Activation frequency level for the filter shaker in the vacuum system of the debris hopper. See [“SELECTING THE FILTER SHAKER METHOD” on page 55](#).
10. Activation frequency level for the filter shaker in the vacuum system of the debris hopper. See [“SELECTING THE FILTER SHAKER METHOD” on page 55](#).
11. Performance level indicator for the vacuum motor in the vacuum system of the debris hopper. See [“ADJUSTING THE VACUUM MOTOR PERFORMANCE LEVEL” on page 56](#).
12. Performance level adjustment button for the vacuum motor in the vacuum system of the debris hopper. See [“ADJUSTING THE VACUUM MOTOR PERFORMANCE LEVEL” on page 56](#).
13. Text indicator.
14. Rear view camera screen activation button. See [“REAR VIEW VIDEO CAMERA” on page 61](#).
15. Pop-up menu screen activation button.
16. Activation button for work zone selection screen. See [“ZONE MODE WORKING PROGRAM” on page 43](#).
17. Adjustment button for pressure exerted on the central brush. See [“ADJUSTING THE PRESSURE EXERTED ON THE BRUSH” on page 56](#).
18. Level indicator for pressure exerted on the central brush. See [“ADJUSTING THE PRESSURE EXERTED ON THE BRUSH” on page 56](#).
19. Forward speed adjustment button. See [“REGULATING THE FORWARD SPEED” on page 54](#).
20. Level indicator for pressure exerted on the central brush. See [“REGULATING THE FORWARD SPEED” on page 54](#).

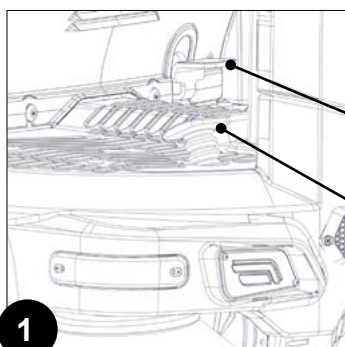
## TOUCH SCREEN

The control display features a capacitive touch screen that takes advantage of the dielectric capacitance variation typical of the capacitors on the glass of the screen itself. Capacitive touch screens offer greater image brightness and sharpness due to the surface layer of glass, which also makes them more durable than resistive touch screens. With this touch technology, the user experience is more pleasant as there is no need to press on the display.

Below are the main steps required for using a capacitive touch screen display

	<b>ACTION</b>	<b>MOVEMENTS</b>
	Select an element	Touch the screen
	Scroll	Place a finger on the screen and scroll horizontally or vertically

## PEDALBOARD



The pedalboard, in the footrest area, is divided up as follows:

1. Accelerator pedal (1) (**Fig. 1**), on the right of the pedalboard, and activated with the right foot.

**i** **NB:** forward speed can be regulated by either pressing the pedal (1) (**Fig. 1**) quite firmly or pressing the forward speed button on the command display. See [“REGULATING THE FORWARD SPEED”](#) on page 54 .

2. Front flap pedal (2) (**Fig. 1**), on the left of the pedalboard. Use the heel of your left foot to activate the pedal (2).

**i** **NB:** the pedal (2) is used to raise the front flap when close to bulky waste (e.g. tin cans). When the front flap is raised, the waste is collected directly by the central brush and thrown into the debris hopper.

3. Brake pedal (3) (**Fig. 2**), on the left of the pedalboard, and activated with the left foot.

**i** **NB:** the machine is fitted with a mechanical brake in addition to the machine electronics that handle the braking process. The mechanical braking action depends on the degree of force applied to the pedal (3).

**i** **NB:** if the accelerator pedal (1) is released while moving, the machine electronics start to slow down with a gentle deceleration ramp. See [“BRAKING CONTROL”](#) on page 59.

## MACHINE PREPARATION

### HANDLING THE PACKAGED MACHINE

The overall package dimensions are as follows:

DIMENSIONS	
Length (cm)	203
Width (cm)	128
Height (cm)	161
Weight (kg/l)	380

**i** **NB:** it is recommended that all the packaging components be kept for any future machine transportation.

**DANGER:** move the packaged product with handling trolleys that comply with legal requirements regarding size and mass of the packaging.

## HOW TO UNPACK THE MACHINE

The machine is shipped in specific packaging. To remove it, proceed as follows:

1. Place the lower part of the outer packaging in contact with the floor.

**i NB:** use the pictograms printed on the box as a reference.

2. Remove the outer package.

**! WARNING:** the machine is contained in specific packaging materials, whose elements (plastic bags, staples, etc.) can pose potential hazards, and must not be left within reach of children, disabled persons, etc.

**! CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

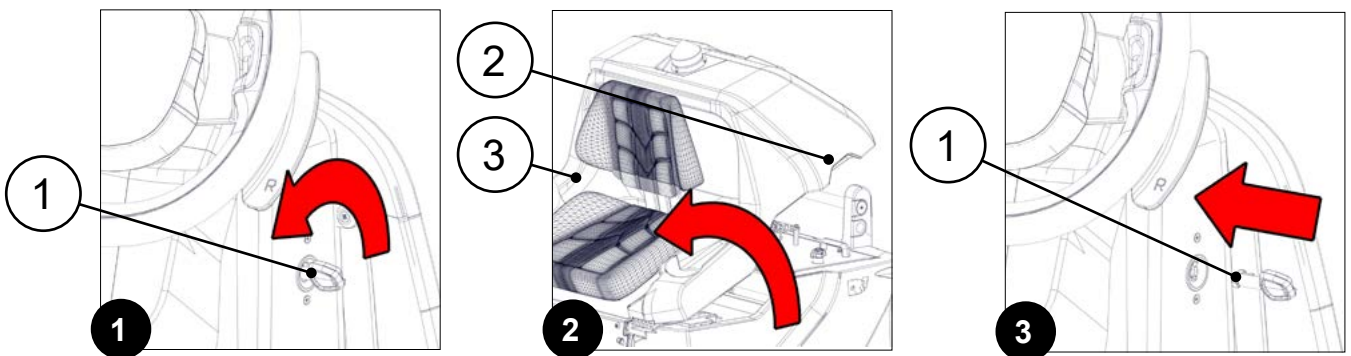
3. Place two descent ramps at the rear of the machine.

**! WARNING:** the descent ramps are consigned in the machine packaging. If there are no ramps provided, bear in mind the one used must have a suitable slope to avoid damaging the machine and a sufficient load-bearing capacity to ensure it does not break when the machine moves across it. To obtain the net weight of the machine and the safety percentage value required of the ramp, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to [service@fimap.com](mailto:service@fimap.com), or visit the website [www.fimap.com](http://www.fimap.com).

4. The machine is secured to the footboard with wedges that lock the wheels; remove these wedges.
5. Check the main switch is on "0". If it isn't, make a quarter turn anti-clockwise with the key (1) (**Fig. 1**).
6. Remove the key from the instrument panel.
7. Stand at the side of the machine, grasp the handle (2) and turn the upper body (3) to the maintenance position (**Fig. 2**).

**! ATTENTION:** the following operations must be carried out by qualified personnel. Incorrect connection of the connector may cause a malfunction of the device.

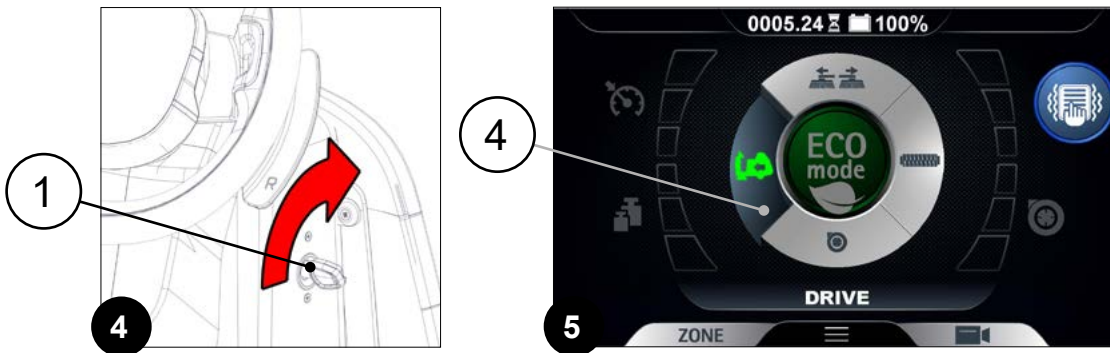
8. Connect the connector of the battery pad trolley to the machine's main system connector.
9. Grip the handle (2) and turn the upper body (3) to its working position.
10. Sit on the driver's seat.
11. Insert the key (1) in the main switch on the instrument panel (**Fig. 3**).



12. Bring the main switch to position "I" by making a quarter turn clockwise with the key (1) (**Fig. 4**).

**i NB:** at switch-on, the control display visualises a series of screens, the last of which shows the machine programming characteristics. See "[STARTING WORK](#)" on page 48.

13. Make sure transportation mode (4) is active (**Fig. 5**). If it isn't, activate it. See [“TRANSFER WORKING MODE” on page 45](#).

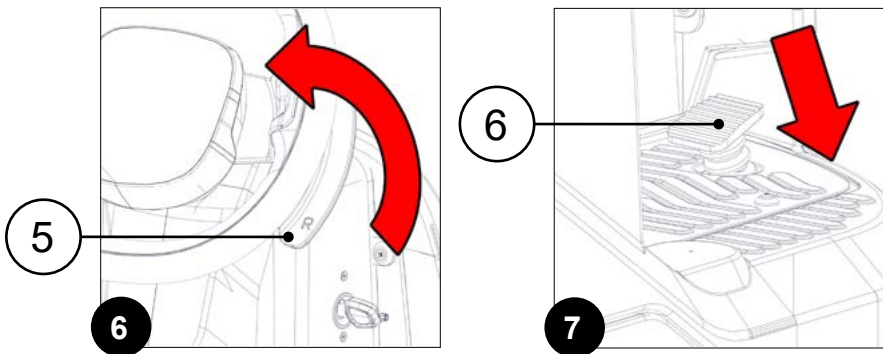


14. Engage the “REVERSE ACTIVATION/DEACTIVATION” lever (5) underneath the steering wheel (**Fig. 6**).

15. Press the drive pedal (6) (**Fig. 7**) to start the machine moving in reverse.

16. Drive the machine down the ramp.

**! ATTENTION:** during this operation, check there are no people or objects near the machine.



17. Set the main switch to its “0” position, then make a quarter turn anti-clockwise with the key (1) (**Fig. 1**).

18. Remove the key from the instrument panel.

19. Grip the handle (2) and turn the upper body (3) to its maintenance position.

**! ATTENTION:** the following operations must be carried out by qualified personnel. Incorrect connection of the connector may cause a malfunction of the device.

20. Disconnect the backup battery trolley connector from the main machine system connector.

21. Grip the handle (2) and turn the upper body (3) to its working position.

## MACHINE SAFETY

To ensure that work is carried out in the best safety conditions, proceed as follows:



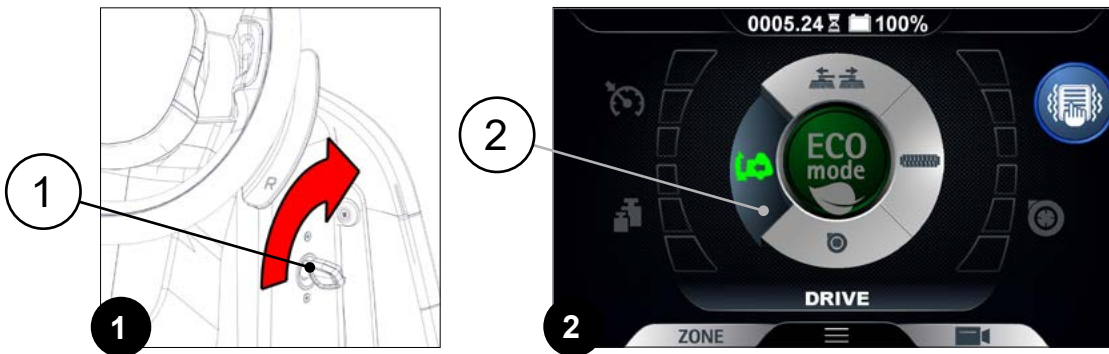
**CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

1. Make sure the debris hopper is empty (if necessary, empty it). See [“EMPTYING THE DEBRIS HOPPER” on page 52.](#)
2. Sit on the driver's seat.
3. Insert the key (1) in the main machine switch on the right-hand side of the steering column, then bring the switch to position "I" by making a quarter turn clockwise with the key (1) (**Fig. 1**).

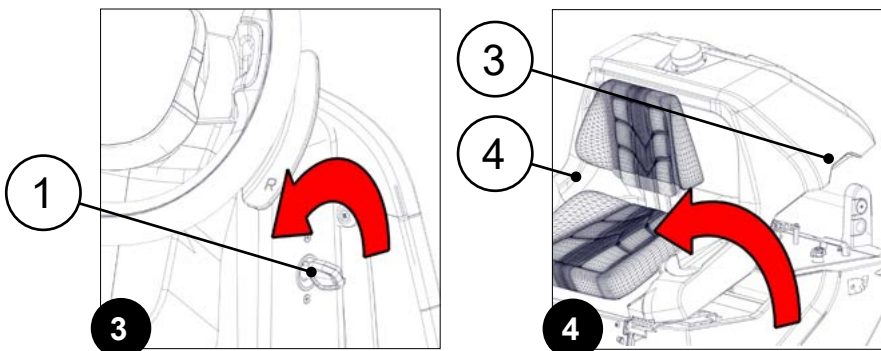


**NB:** at switch-on, the control display visualises a series of screens, the last of which shows the machine programming characteristics. See [“STARTING WORK” on page 48.](#)

4. Make sure transportation mode (2) is active (**Fig. 2**). If isn't, activate it. See [“TRANSFER WORKING MODE” on page 45.](#)



5. Bring the main switch to the "0" position by making a quarter turn anti-clockwise with the key (1) (**Fig. 3**).
6. Remove the key from the instrument panel.
7. Get off the machine.
8. Grip the handle (3) and turn the upper body (4) to its maintenance position (**Fig. 4**).



**ATTENTION:** the following operations must be carried out by qualified personnel. Incorrect operations could result in machine malfunctions.

9. Disconnect the connector on the machine's electrical system wiring from the connector on the power cable from the battery box.
10. Grip the handle (3) and turn the upper body (4) to its working position.

## HOW TO MOVE THE MACHINE

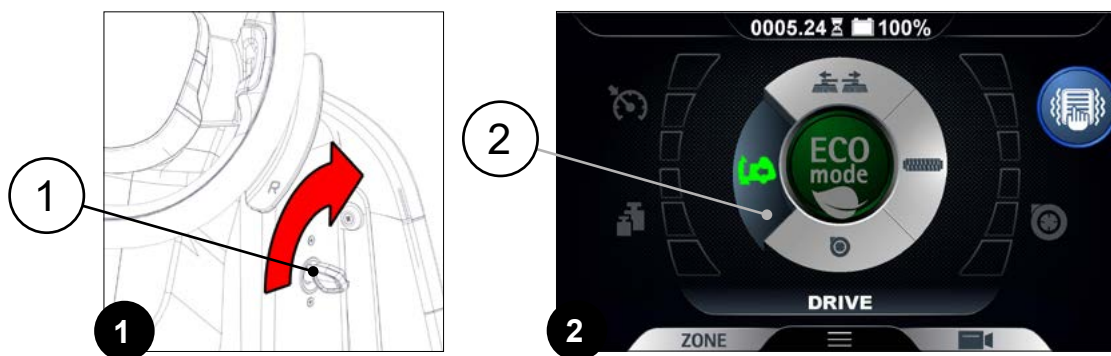
The procedure for transporting the machine safely is as follows:

**CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

1. Make sure the debris hopper is empty (if necessary, empty it). See [“EMPTYING THE DEBRIS HOPPER” on page 52.](#)
2. Sit on the driver's seat.
3. Insert the key (1) in the main machine switch on the right-hand side of the steering column, then bring the switch to position "I" by making a quarter turn clockwise with the key (1) (**Fig. 1**).

**NB:** at switch-on, the control display visualises a series of screens, the last of which shows the machine programming characteristics. See [“STARTING WORK” on page 48.](#)

4. Make sure transportation mode (2) is active (**Fig. 2**). If it isn't, activate it. See [“TRANSFER WORKING MODE” on page 45.](#)

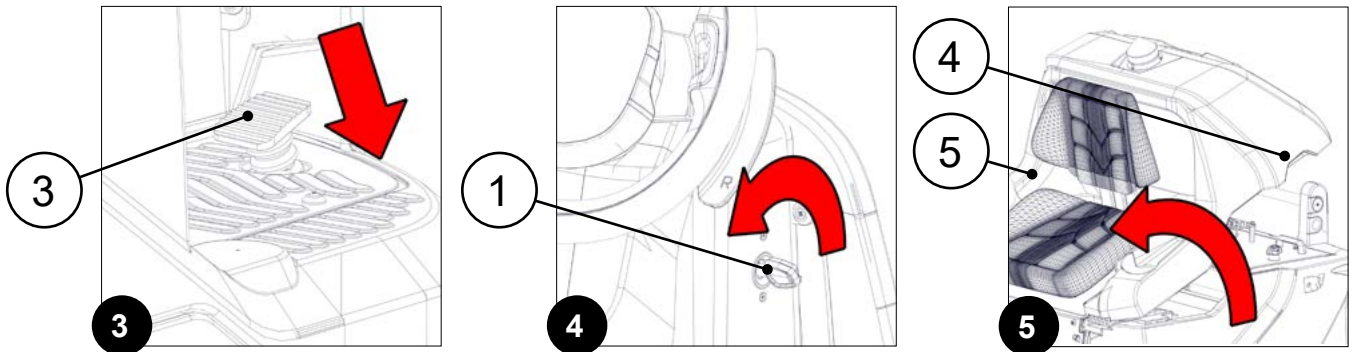


5. Press the drive pedal (3) (**Fig. 3**) to begin moving the machine.
6. Use a ramp to move the machine up onto the transport vehicle.

**WARNING:** bear in mind the ramp must have a suitable slope to avoid damaging the machine, and a sufficient load-bearing capacity to ensure it does not break when the machine moves across it.

**CAUTION:** during this operation, check there are no people or objects near the machine.

7. Place the machine on the transport vehicle.
8. Bring the main switch to the "0" position by making a quarter turn anti-clockwise with the key (1) (**Fig. 3**).
9. Remove the key from the instrument panel.
10. Get off the machine.
11. Grip the handle (4) and turn the upper body (5) to its maintenance position (**Fig. 5**).



**⚠ ATTENTION:** the following operations must be carried out by qualified personnel. Incorrect operations could result in machine malfunctions.

12. Disconnect the connector on the machine's electrical system wiring from the connector on the power cable from the battery box.
13. Grip the handle (4) and turn the upper body (5) to its working position.
14. Secure the machine to the means of transport using an appropriate number and type of fastening elements, based on its weight and size.

**⚠ CAUTION:** secure the machine according to the directives in force in the country of use, so that it cannot slide or tip over.

## TYPE OF BATTERY TO BE USED

To obtain good work results, **the machine must be powered at 24V**. FIMAP recommends using four 6V 210Ah<sub>C5</sub> gel batteries.

The dimensions of the battery holder compartment are: 215x260x725 mm (length x height x width, according to the work direction).

**i NB:** the function board in the machine is programmed by the factory to work with Gel60 batteries. To change the type, refer to [“BATTERY TYPE MENU \(BATTERY - GENERAL SETTINGS\)” on page 27](#) of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned together with the machine documentation.

## BATTERY MAINTENANCE AND DISPOSAL

For battery maintenance and recharging, follow the instructions contained in the document provided by the battery manufacturer.

When the batteries are dead, they must be disconnected by a technician from a FIMAP service centre; using suitable lifting devices, remove the batteries from the machine and take them to a specific disposal centre.

**♻ NB:** used batteries, which are classified as hazardous waste, must be returned to a legally authorised waste disposal authority.

## INSERTING THE BATTERIES IN THE MACHINE

To fit the batteries inside the machine, contact an FIMAP assistance centre technician.

**⚠ WARNING:** FIMAP declines all responsibility for any damage to property or injury persons in the event that the batteries are replaced by an unauthorised technician.

## RECHARGING THE BATTERIES

**WARNING:** the batteries must be charged prior to first use and whenever they no longer provide sufficient power for the job to be carried out.

**NB:** before recharging, carefully read the Use and Maintenance Manual of the batteries you want to use.

**NB:** before recharging, carefully read the Use and Maintenance Manual of the battery charger you want to use.

**WARNING:** FIMAP disclaims all responsibility for any damage to property or injury to persons if the batteries are recharged by an unauthorised technician or anyone non correctly instructed on how to perform the task.

1. Bring the machine to the battery recharging area.

**ATTENTION:** park the machine in an enclosed place, on a flat and level surface; near the machine there must be no objects that could either damage it, or be damaged through contact with it.

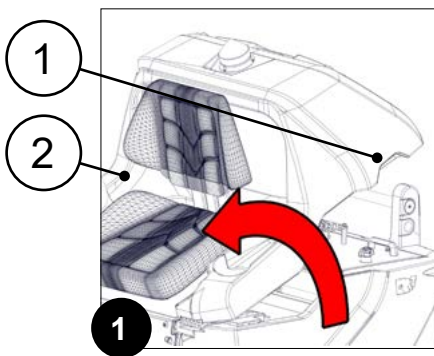
**ATTENTION:** the room where the batteries are recharged must be adequately ventilated to prevent the accumulation of gases that leak from batteries.

**WARNING:** the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

**CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

2. Do everything necessary to ensure the machine is in a safe condition. See ["DASHBOARD" on page 25](#).

3. Grip the handle (1) and turn the upper body (2) to its maintenance position (**Fig. 1**).



**WARNING:** the following operations must be carried out by qualified personnel. Incorrect operations could result in machine malfunctions.

### WITHOUT AN ON-BOARD BATTERY CHARGER

To recharge the batteries with an external battery charger, proceed as follows:

1. Disconnect the connector on the machine power cable from the connector on the battery power cable.
2. Connect the connector on the battery charger cable to the connector on the battery power cable.

**NB:** the battery charger coupling connector comes inside the bag containing this instruction booklet, and must be assembled on the battery charger cables as indicated in the instructions.

**ATTENTION:** before connecting the battery box to the battery charger, make sure it is suitable for the type of battery you want to charge.

**NB:** carefully read the user and maintenance instructions for the battery charger to be used for charging.

**⚠ CAUTION:** keep the upper body in the maintenance position throughout the battery recharging cycle, to allow the gas fumes to escape.

3. Connect the battery charger cable to the power supply socket.
4. When the recharging cycle has been completed, disconnect the connector on the battery charger cable from the connector on the battery power cable.
5. Connect the connector on the machine power cable to the connector on the battery power cable.
6. Grip the handle (1) and turn the upper body (2) to its working position.

## WITH AN ON-BOARD BATTERY CHARGER

To recharge the batteries with an on-board battery charger, proceed as follows:

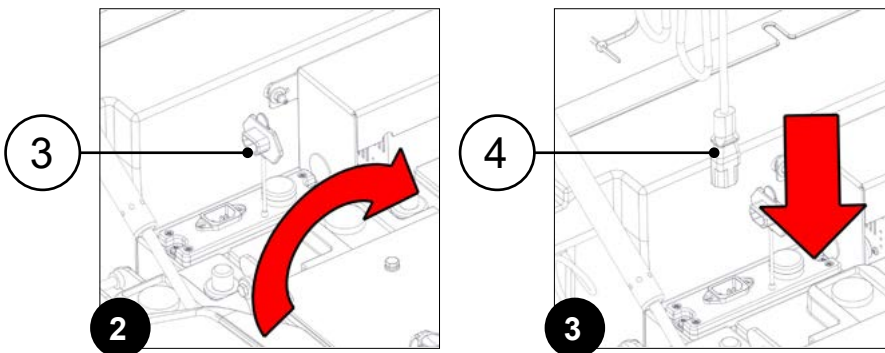
1. Remove the cap (3) from the battery charger socket (**Fig. 2**).

**⚠ CAUTION:** before connecting the batteries to the battery charger, make sure it is suitable for the batteries used.

**⚠ WARNING:** before inserting the battery charger power cable in the socket, make sure there is no condensation or any other type of liquid.

**i NB:** the battery charger power cable is consigned in the bag containing this instruction booklet.

2. Plug the battery charger cable into the mains socket.
3. Connect the connector (4) on the battery charger power cable to the socket on the charger itself (**Fig. 3**).



**⚠ ATTENTION:** before connecting the battery box to the battery charger, make sure it is suitable for the type of battery you want to charge.

**i NB:** carefully read the user and maintenance instructions for the battery charger to be used for charging.

**⚠ CAUTION:** keep the upper body in the maintenance position throughout the battery recharging cycle, to allow the gas fumes to escape.





4. Disconnect the battery charger cable plug from the mains socket.
5. Disconnect the connector (4) on the battery charger power cable from the socket on the charger itself.
6. When the recharge cycle is complete, disconnect the battery charger cable connector from the mains.
7. Grip the handle (1) and turn the upper body (2) to its working position.

## ADJUSTING THE DRIVING POSITION



The proper adjustment of the driving position provides a greater sense of comfort when using the machine.

**CORRECT POSITION ON THE SEAT:** make sure you sit upright, and that your back and lower back are at 90°.


**LONGITUDINAL SEAT ADJUSTMENT:** the seat should always be positioned using the pedals as a reference. To adjust the seat, use the lever located under it.

-  **NB:** the distance should be adjusted so your knees are slightly bent (about 120°) when the pedals are fully pressed to the floor.
-  **NB:** adjust the distance of the seat so the brake pedal reaches the end of its stroke when pressed.
-  **NB:** your feet should be positioned keeping your heels on the footboard; the pedals should be pressed using the part of the foot directly behind your toes.
-  **NB:** the ideal position is that which allows you to grip the steering wheel correctly with the palms of your hands slightly below shoulder level. With a good grip on the steering wheel, the elbows should be bent by about 120°. They should be at least 30 cm between the middle of the steering wheel and our breastbone. In any case, this distance should be no more than 45 cm.

**ADJUSTING THE ARMRESTS (OPTIONAL):** the armrests should be inclined to make using the machine comfortable.

-  **NB:** to adjust the armrest, use the runner located under it.
-  **NB:** taking the right armrest as a reference, if the wheel is turned outwards the inclination of the armrest is increased. Taking the left armrest as a reference, if the wheel is turned inwards the inclination of the armrest is increased.


**WEARING THE SAFETY BELT (OPTIONAL) CORRECTLY:** the machine comes equipped with a sub-abdominal safety device, which allows the operator to remain anchored to the driver's seat. To secure the safety belt, you must first be sitting in the driver's seat; take the mobile part of the belt, wrap it round the abdomen and insert the mobile part in the slit in the fixed part.

-  **NB:** adjust the horizontal part of the belt so it is as tight as possible around the pelvis. The belt should be pulled and put as low as possible on the pelvis bone, and not on the belly.

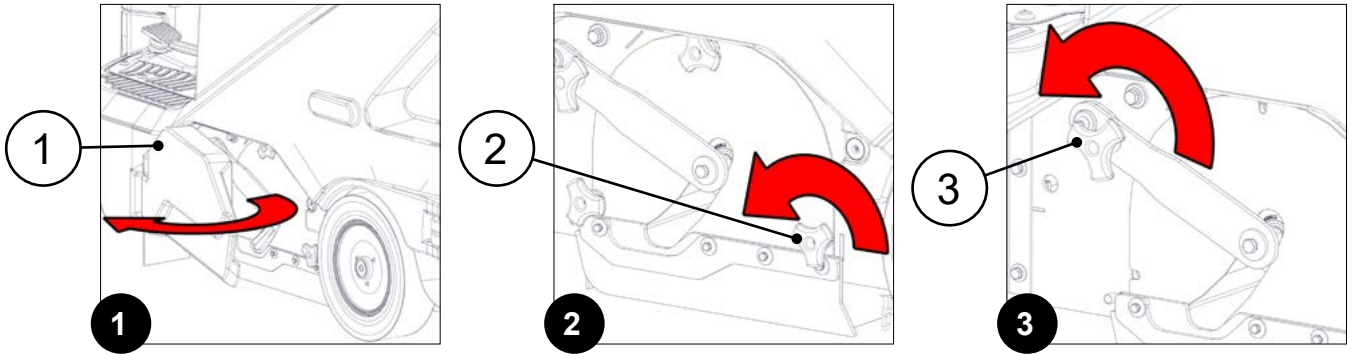
## ASSEMBLING THE CENTRAL BRUSH

To mount the brush in the central tunnel, proceed as follows:

1. Take the machine to the maintenance area.
2. Do everything necessary to ensure the machine is in a safe condition. See ["DASHBOARD" on page 25](#).

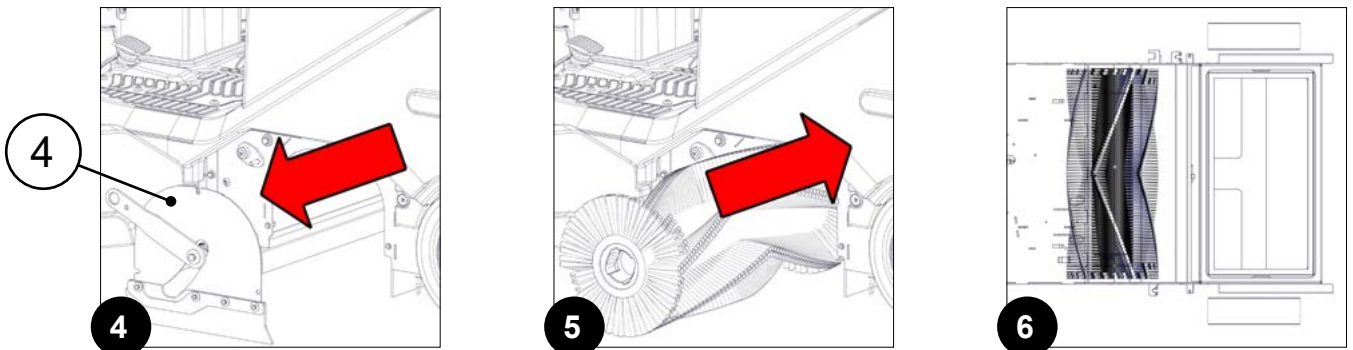
 **CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

3. Open the left-hand inspection door (1) (**Fig. 1**).
4. Loosen the knobs (2) of the central brush inspection carter (**Fig. 2**).
5. Loosen the knob (3) of the central brush lifting arm (**Fig. 3**).

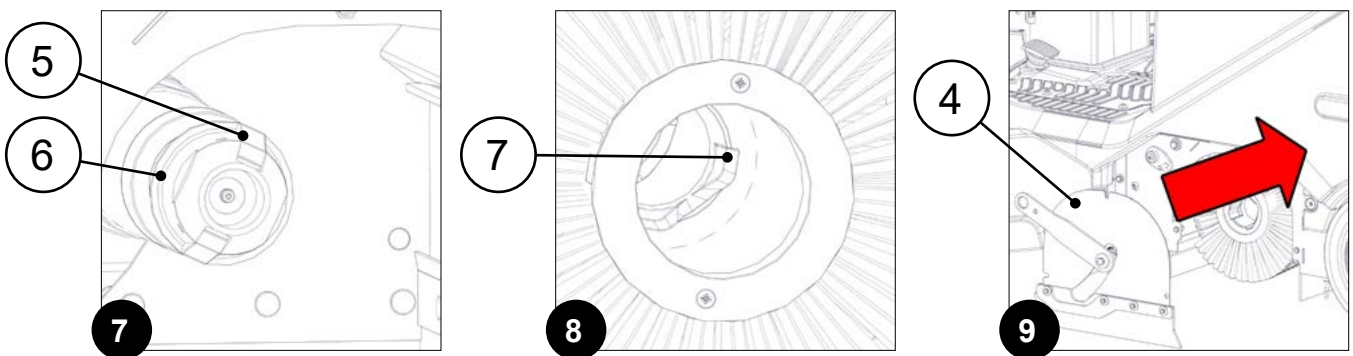


6. Remove the central brush inspection carter (4) (Fig. 4).
7. Insert the brush in the tunnel in the machine frame (Fig. 5).

**i NB:** when the brush is mounted correctly, the cusps on the brush form an arrow  $\wedge$  when seen from above in the forward movement direction (Fig. 6).

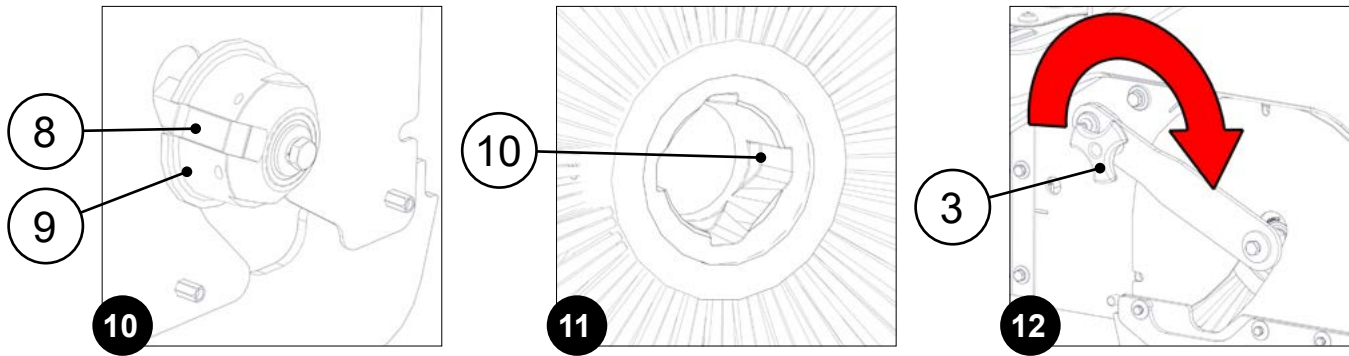


8. Rotate the brush until the fastening hooks (5) in the driving towing hook (6) (Fig. 7) correctly enter the slots (7) in the brush (Fig. 8).
9. Insert the central brush inspection carter (4) (Fig. 9).

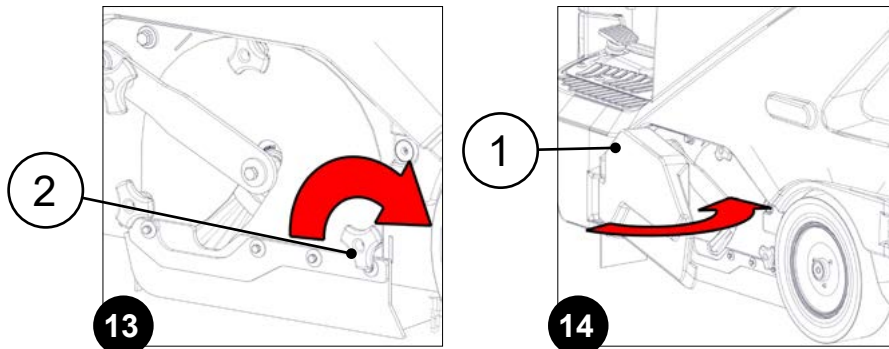


**! ATTENTION:** make sure the fastening hooks (8) in the idle towing hook (9) (Fig. 10) correctly enter the slots (10) in the brush (Fig. 11).

10. Tighten the knob (3) of the central brush lifting arm (Fig. 12).



11. Tighten the knobs (2) of the central brush inspection carter (**Fig. 13**).
12. Close the left-hand inspection door (1) (**Fig. 14**).



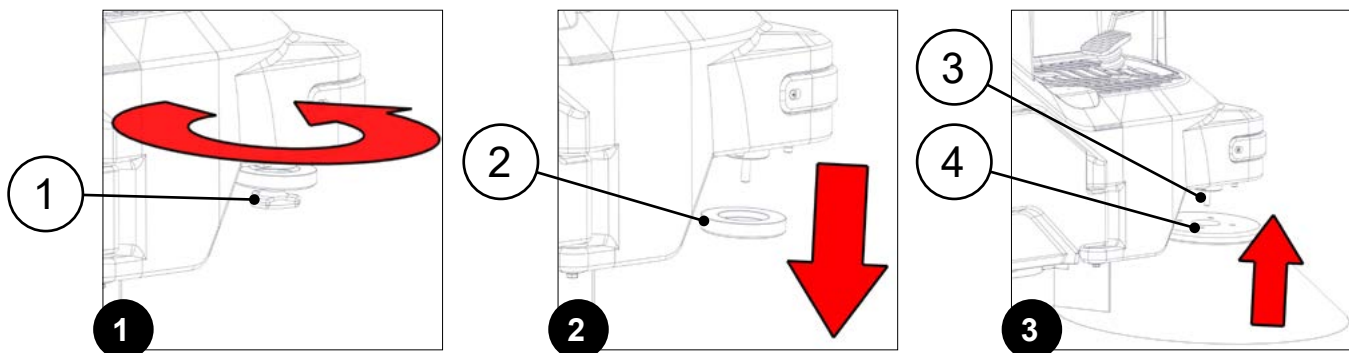
## ASSEMBLING THE SIDE BRUSHES

To assemble the side brushes, proceed as follows:

1. Take the machine to the maintenance area.
2. Do everything necessary to ensure the machine is in a safe condition. See [“DASHBOARD” on page 25](#).

**CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

3. Go to the right-hand side of the machine.
4. Remove the knob (1) fixing the side brush to the gear motor by rotating the right brush clockwise and the left brush anti-clockwise (**Fig. 1**).
5. Remove the washer (2) holding the side brush in place (**Fig. 2**).
6. Insert the side brush, making sure to correctly position the pins (3) on the brush support in the holes (4) on the brush (**Fig. 3**).



7. Fix the brush to the flange using the knob (1), remembering to put the washer (2) in between the knob and the brush.
8. Once this brush has been fitted, move on to the left-hand one (if used).

## ASSEMBLING THE VACUUM WAND FILTER BAG

To assemble the vacuum wand filter bag, proceed as follows:

1. Take the machine to the maintenance area.
2. Do everything necessary to ensure the machine is in a safe condition. See [“DASHBOARD” on page 25.](#)



**CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

3. Shift the driving seat forwards.
4. Disconnect the vacuum hose (1) from the sleeve (2) on the machine (**Fig. 1**).
5. Rotate the retainer knobs (3) on the filter-holder compartment cover (4) to the maintenance position (**Fig. 2**).
6. Remove the filter-holder compartment cover.
7. Attach the filter bag (5) to the filter support (6) on the filter-holder compartment cover (**Fig. 3**).

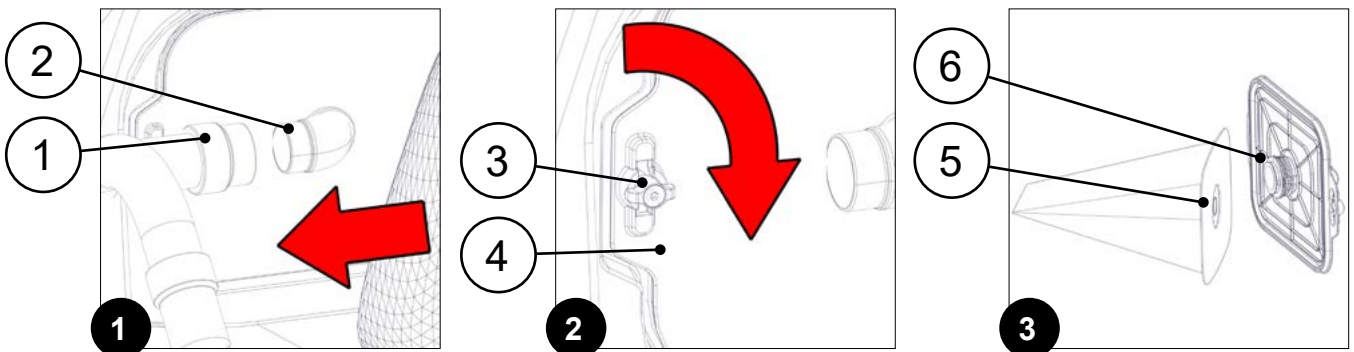


**ATTENTION:** when attaching the filter bag to the filter support, make sure the filter is correctly inserted in the vacuum nozzle and take care not to damage the cardboard support in the filter bag itself.

8. Repeat the operations in reverse order to reassemble all the parts.



**ATTENTION:** insert the filter in its housing correctly, making sure it does not bend or break.



## WORK PREPARATION CHECKLIST

<p><b>Check for any fluid leaks from the batteries</b></p>	<p>If you note any faults, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to <a href="mailto:service@fimap.com">service@fimap.com</a> or visit the website <a href="http://www.fimap.com">www.fimap.com</a></p>
<p><b>Check the horn, the front and rear lights, the safety lights and the alarm (if installed)</b></p>	<p>If you note any faults, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to <a href="mailto:service@fimap.com">service@fimap.com</a> or visit the website <a href="http://www.fimap.com">www.fimap.com</a></p>
<p><b>Check the service brakes and steering are functioning properly</b></p>	<p>If you note any faults, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to <a href="mailto:service@fimap.com">service@fimap.com</a> or visit the website <a href="http://www.fimap.com">www.fimap.com</a></p>
<p><b>Check the electric brake is correctly engaged</b></p>	<p>If you note any faults, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to <a href="mailto:service@fimap.com">service@fimap.com</a> or visit the website <a href="http://www.fimap.com">www.fimap.com</a></p>
<p><b>Check the tread of the tyres to make sure they are not damaged</b></p>	<p>If you note any faults, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to <a href="mailto:service@fimap.com">service@fimap.com</a> or visit the website <a href="http://www.fimap.com">www.fimap.com</a></p>
<p><b>Check the charge level of the battery box</b></p>	<p>Check the charge level of the battery box on the control display, and recharge it if necessary. See <a href="#">“RECHARGING THE BATTERIES” on page 33</a></p>
<p><b>Adjust the driver's seat</b></p>	<p>Before beginning the job, adjust the driver's seat. See <a href="#">“ADJUSTING THE DRIVING POSITION” on page 35</a></p>
<p><b>Check whether the debris hopper (in the rear part of the machine) is full</b></p>	<p>If the debris hopper is full, empty it. See <a href="#">“EMPTYING THE DEBRIS HOPPER” on page 52</a></p>
<p><b>Check all the dust guards of the central brush compartment for signs of damage or wear</b></p>	<p>If you note any faults, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to <a href="mailto:service@fimap.com">service@fimap.com</a> or visit the website <a href="http://www.fimap.com">www.fimap.com</a></p>
<p><b>Check the central brush is not dirty, damaged or worn.</b></p>	<p>If the brush (in the central machine tunnel) is dirty, clean it. See <a href="#">“CLEANING THE CENTRAL BRUSH” on page 75</a></p>
	<p>If the brush (in the central machine tunnel) is worn or damaged, replace it. See <a href="#">“REPLACING THE CENTRAL BRUSH” on page 80</a></p>
<p><b>Check the side brush is not dirty, damaged or worn.</b></p>	<p>If the brush (in the side brush head) is dirty, clean it. See <a href="#">“CLEANING THE SIDE BRUSHES” on page 76</a></p>
	<p>If the brush in the side brush head is worn or damaged, replace it. See <a href="#">“ASSEMBLING THE SIDE BRUSHES” on page 81</a></p>
<p><b>Check the front dust guard kit for signs of damage or wear</b></p>	<p>If you note any faults, contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to <a href="mailto:service@fimap.com">service@fimap.com</a> or visit the website <a href="http://www.fimap.com">www.fimap.com</a></p>
<p><b>Check the condition of the vacuum filter on the debris hopper</b></p>	<p>If the collection filter is clogged or dirty, clean it. See <a href="#">“CLEANING THE PANEL FILTER” on page 76</a> or <a href="#">“CLEANING THE POCKET FILTER (OPTIONAL)” on page 77</a></p>

## WORKING PROGRAMS

Four types of program are already stored in the function board memory, and can be used to facilitate machine use by the operator. In the working programs, the performance levels of the parameters:

- machine forward speed;
- pressure exerted on the machine brush head;
- activation frequency of the filter shaker in the vacuum system of the machine;
- machine vacuum system performance level;

are all pre-set and cannot be changed.

The machine can be used with the following working programs:

**ECO MODE:** for light maintenance cleaning tasks, using fewer resources and operating at a low noise level. See [“ECO MODE WORKING PROGRAM” on page 40](#)).

**MANUAL MODE:** the operator freely evaluates and chooses the parameters based on the cleaning requirements that arise during the course of the operation. See [“MANUAL MODE WORKING PROGRAM” on page 41](#)).

**ZONE PROGRAM:** four working programs stored in the machine's memory and easily selected to help the operator carry out the task correctly in the case of recurring worksite interventions. See [“ZONE MODE WORKING PROGRAM” on page 43](#).

**POWER MODE:** for short tasks (max. 60 seconds) where maximum sweeping power is required to clean particularly dirty areas. See [“POWER MODE WORKING PROGRAM” on page 44](#).


## ECO MODE WORKING PROGRAM


The ECO MODE working program can be used for light maintenance work.


The ECO MODE program is a program which guarantees the best possible performance in terms of consumption and cleaning.

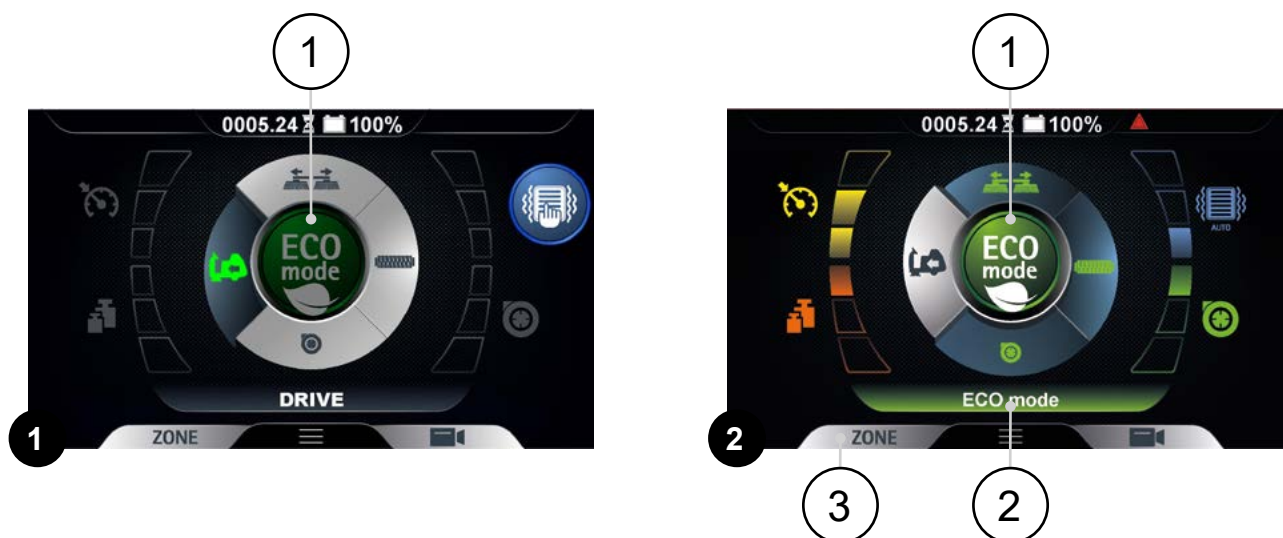
To activate the ECO MODE program, proceed as follows:

1. To activate the ECO MODE program while working, press the button (1) on the control display (**Fig. 1**).
2. As soon as the ECO MODE program screen is visible, the message "ECO mode" will appear in the text indicator (2) (**Fig. 2**).

 **NB:** if the ECO MODE program is activated while in transfer work mode, the machine will switch to sweeping mode with vacuum along with the side brushes.

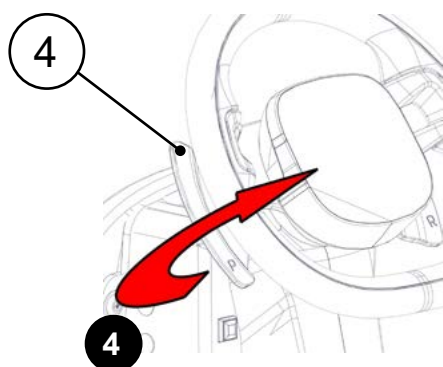
 **NB:** if the ECO MODE program is activated while in a work mode other than transfer, the current work mode will be maintained but with reduced machine performance level values in keeping with the ECO MODE parameters.

 **NB:** when the ECO MODE program is selected, the machine performance level values (speed, force exerted on the brushes, vacuum system performance, filter shaker activation frequency) are changed automatically.



The parameters, pre-set on a scale of 1 to 3, are as follows:

Forward speed	Pressure exerted on the brush	Vacuum motor performance	Filter shaker frequency
2	1	1	2



- i** **NB:** to deactivate the ECO MODE program and activate MANUAL MODE, activate and then deactivate ECO MODE by pressing the button (1) (Fig. 2). See [“MANUAL MODE WORKING PROGRAM” on page 41.](#)
- i** **NB:** to deactivate ECO MODE, activate the ZONE MODE program by pressing the button (3) (Fig. 2). See [“ZONE MODE WORKING PROGRAM” on page 43.](#)
- i** **NB:** to deactivate ECO MODE, activate the POWER MODE program by shifting the lever (4) underneath the steering wheel (Fig. 4). See [“POWER MODE WORKING PROGRAM” on page 44.](#)

## MANUAL MODE WORKING PROGRAM

MANUAL MODE is a program where it is the operator who freely evaluates and chooses the parameters based on the cleaning requirements that arise during the course of the task.

To activate the MANUAL MODE program, proceed as follows:





1. To switch to MANUAL MODE while working, activate ECO MODE by pressing the button (1) on the control display (Fig. 1).
2. As soon as the ECO MODE working program screen is visible, activate MANUAL MODE by pressing the button (1) on the control display (Fig. 2).



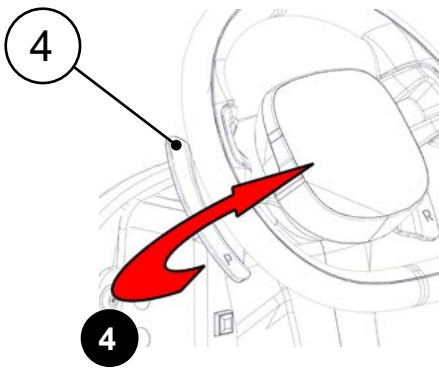
3. As soon as the button (1) has been pressed, the ECO MODE screen (Fig. 2) will be replaced by the MANUAL MODE screen (Fig. 3) and the message MANUAL will appear in the text indicator (2).



4. Press one of the four icons on the control display (Fig. 2):

	Icon for adjusting the forward speed performance level. See <a href="#">“REGULATING THE FORWARD SPEED” on page 54.</a>
	Icon for adjusting the pressure exerted on the central brush. See <a href="#">“ADJUSTING THE PRESSURE EXERTED ON THE BRUSH” on page 56.</a>
	Icon for adjusting the filter shaker activation frequency. See <a href="#">“SELECTING THE FILTER SHAKER METHOD” on page 55.</a>
	Icon for adjusting the vacuum system performance level. See <a href="#">“ADJUSTING THE VACUUM MOTOR PERFORMANCE LEVEL” on page 56.</a>

**i NB:** every time an icon is pressed, the relative level is increased by one step. The increase ranges from a minimum of one to a maximum of three (the increase is cyclical, and there is no zero level).



- i** **NB:** to deactivate MANUAL MODE, activate the ECO MODE program by pressing the button (1) (**Fig. 2**). See [“ECO MODE WORKING PROGRAM”](#) on page 40.
- i** **NB:** to deactivate MANUAL MODE, activate the ZONE MODE program by pressing the button (3) (**Fig. 3**). See [“ZONE MODE WORKING PROGRAM”](#) on page 43.
- i** **NB:** to deactivate MANUAL MODE, activate the POWER MODE program by shifting the lever (4) underneath the steering wheel (**Fig. 4**). See [“POWER MODE WORKING PROGRAM”](#) on page 44.

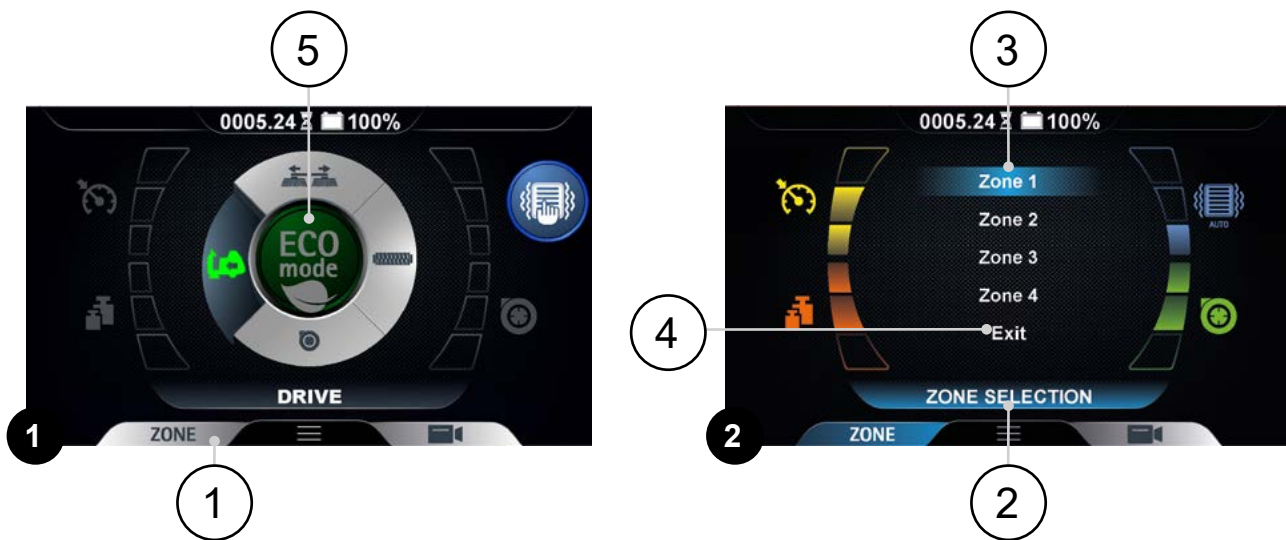
## ZONE MODE WORKING PROGRAM

The ZONE MODE working program can be used to help the operator carry out the job correctly.

To activate the ZONE MODE program, proceed as follows:

1. To activate the ZONE MODE program while working, press the button (1) on the control display (**Fig. 1**).
2. As soon as the button (1) has been pressed, the screen for selecting the required work zone - e.g. Zone 1 - will appear (3) (**Fig. 2**). The message ZONE SELECTION will appear in the text indicator (2).

**i** **NB:** if you want to quit the screen without selecting any work zone, select EXIT (4) (**Fig. 2**).



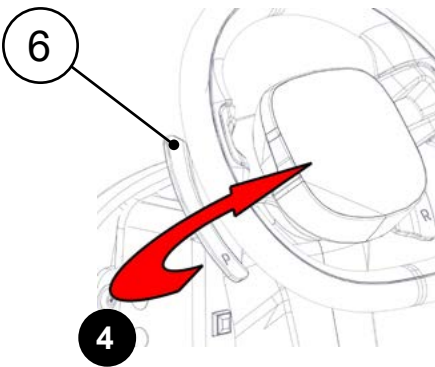
3. As soon as the required work zone has been selected, the control display will show the screen relating to the work zone program selected (**Fig. 3**). The name of the work zone will appear in the text indicator (2).



- i** **NB:** if the ZONE MODE program is activated while in transfer work mode, the machine will switch to sweeping mode with vacuum along with the side brushes.
- i** **NB:** if the ZONE MODE program is activated while in a work mode other than transfer, the current work mode will be maintained but with reduced machine performance level values in keeping with the parameters of the work zone selected.
- i** **NB:** the function board of the machine allows you to select four types of work zone, but the machine performance level values can in any case be changed to suit your specific needs. See [“CHANGING THE WORK ZONE PARAMETERS \(ZONE PROGRAMMING - SETTINGS\)”](#) on page 20 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned together with the machine documentation.

The parameters, pre-set on a scale of 1 to 3, are as follows:

Work zone	Forward speed	Pressure exerted on the brush	Vacuum motor performance	Filter shaker frequency
Zone 1	2	1	1	1
Zone 2	3	1	3	2
Zone 3	2	3	3	3
Zone 4	1	2	2	1



- i** **NB:** to deactivate ZONE MODE, activate the ECO MODE program by pressing the button (5) (Fig. 1). See [“ECO MODE WORKING PROGRAM”](#) on page 40.
- i** **NB:** to deactivate the ZONE MODE program and activate MANUAL MODE, activate and then deactivate ECO MODE by pressing the button (3) (Fig. 2). See [“MANUAL MODE WORKING PROGRAM”](#) on page 41.
- i** **NB:** to deactivate ZONE MODE, activate the POWER MODE program by shifting the lever (4) underneath the steering wheel (Fig. 3). See [“POWER MODE WORKING PROGRAM”](#) on page 44.

## POWER MODE WORKING PROGRAM

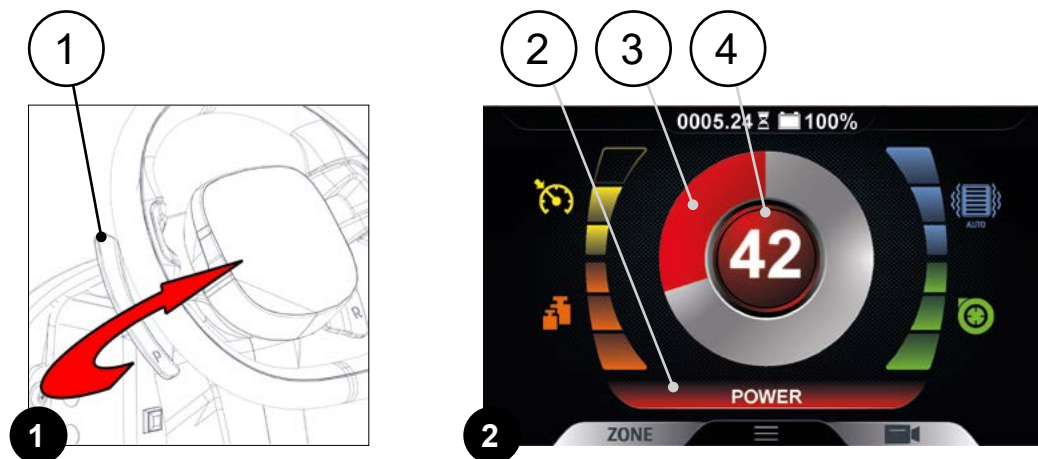
The POWER MODE working program can be used if small areas with stubborn dirt are found during a job, making it useful to temporarily swap the current configuration for maximum sweeping force in order to remove the localised dirt.

POWER MODE can be activated by shifting the lever (1) underneath the steering wheel (Fig. 1).

- i** **NB:** POWER MODE remains active for 60 seconds. To deactivate it, just wait until the end of the 60 seconds.
- i** **NB:** as soon as the lever is activated, the control display will show the screen dedicated to the POWER MODE working program (Fig. 2). The message POWER will appear in the text indicator (2).

**i NB:** in the centre of the screen (**Fig. 2**) you will see a graphic symbol (3) and a numerical value (4). They represent a countdown, at the end of which the previous work screen will return and the pressure exerted on the brush head goes back to the standard level.

**i NB:** when the POWER MODE working program is selected, the working parameters (speed, force exerted on the brushes, vacuum motor performance) are changed automatically.



The parameters, pre-set on a scale of 1 to 3, are as follows:

Forward speed	Pressure exerted on the brush	Vacuum motor performance	Filter shaker frequency
1	3	3	3

**i NB:** to deactivate POWER MODE, wait until the countdown ends or press the lever (1) again.

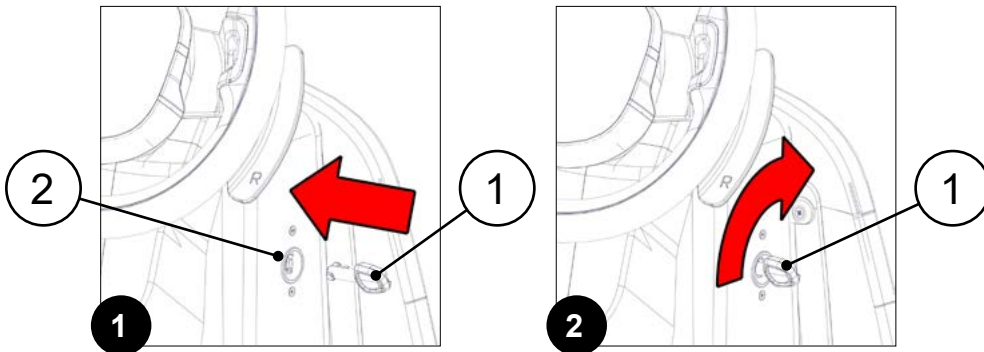
## WORKING MODE

### TRANSFER WORKING MODE

In TRANSFER working mode, both the central brush and the side brushes are in their idle positions. This working mode is used to transfer the machine from the work site to the maintenance site.

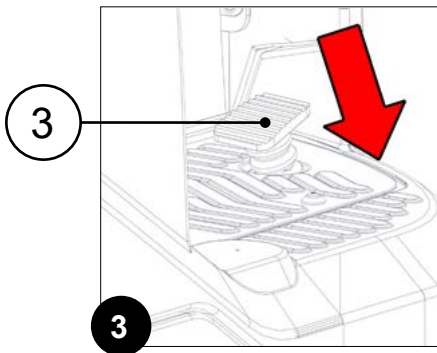
To use the machine in transfer mode, proceed as follows:

1. Carry out all the checks listed in the [“WORK PREPARATION CHECKLIST” on page 39](#).
2. Sit on the driver’s seat.
3. Insert the key (1) in the slot (2) on the right-hand side of the column (**Fig. 1**).
4. Turn on the machine and make a quarter turn clockwise with the key (1) (**Fig. 2**).
5. At switch-on, the control display visualises a sequence of screens, the last of which shows the machine programming characteristics.



**i NB:** when the machine is turned on, TRANSFER working mode is enabled.

6. The machine is now in the transfer working mode.
7. Press the drive pedal (3) (**Fig. 3**) to begin moving the machine.

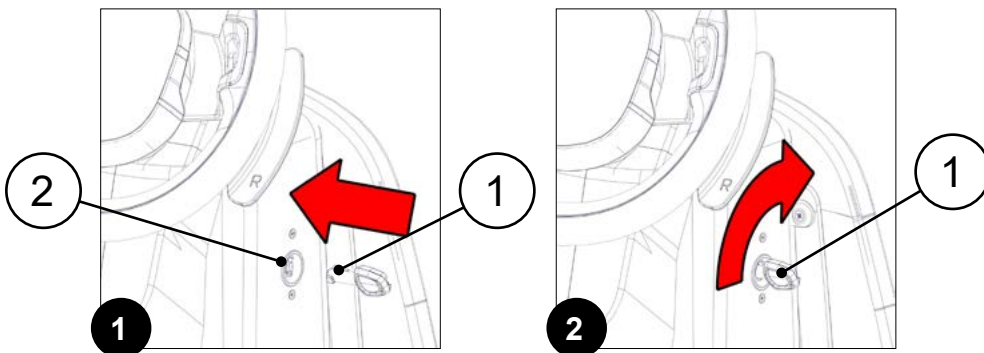


## SWEEPING MODE

In SWEEPING mode, both the central brush and the side brushes are in their work positions. This working mode is used to collect the debris from the floor.

To use the machine in sweeping mode, proceed as follows:

1. Carry out all the checks listed in the [“WORK PREPARATION CHECKLIST”](#) on page 39.
2. Sit on the driver’s seat.
3. Insert the key (1) in the slot (2) on the right-hand side of the column (**Fig. 1**).
4. Turn on the machine and make a quarter turn clockwise with the key (1) (**Fig. 2**).
5. At switch-on, the control display visualises a sequence of screens, the last of which shows the machine programming characteristics.



**i** **NB:** when the machine is turned on, TRANSFER working mode is enabled.

6. The machine is now in the transfer working mode.

7. Activate ECO MODE by pressing the button (3) on the control display (**Fig. 3**). See [“ECO MODE WORKING PROGRAM”](#) on page 40.

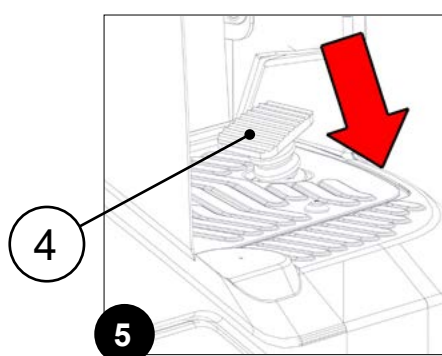
**i** **NB:** when ECO MODE is selected, the control display visualises the work screen (**Fig. 4**).

**i** **NB:** when ECO MODE is selected, the machine will switch automatically to SWEEPING mode with VACUUM and SIDE BRUSH active.

**i** **NB:** by selecting the ECO MODE working program, the pre-set performance levels are automatically loaded, based on those selected on the function board parameters list.



8. Press the drive pedal (4) (**Fig. 5**) to begin moving the machine.



**i** **NB:** as soon as the drive pedal is pressed, the central brush is automatically moved to its working position.

**i** **NB:** as soon as the drive pedal is pressed, the side brushes are automatically moved to their working position.

**i** **NB:** the vacuum motor is only started up when the central brush is in the working position.

**i** **NB:** if the machine is stopped and the drive pedal (4) released, the central brush will automatically move to the intermediate position (raised off the floor) after the DELAY RESET (BRUSHES BRUSH MOT) time. To change this parameter, contact a FIMAP service centre or refer to [“DELAY RESET MENU \(BRUSH MOTOR - PARAMETERS\)”](#) on page 37 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

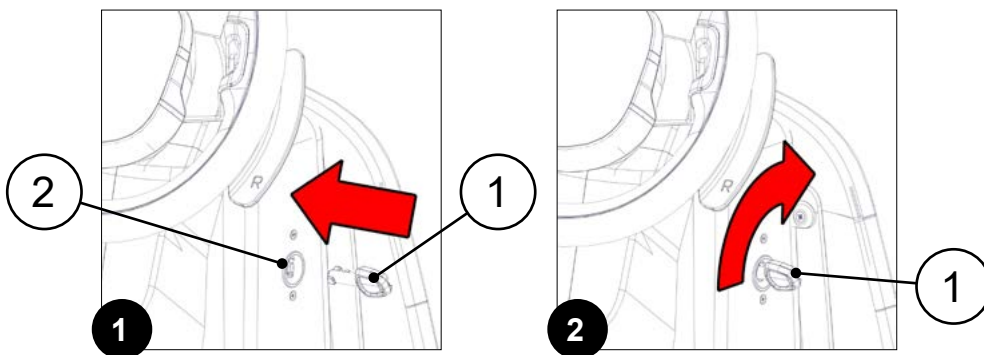
**i** **NB:** if the machine is stopped and the drive pedal (4) released, the side brushes will automatically move to the position where they are raised off the floor after the DELAY RESET (OPTIONAL OPT. BRUSH) time. To change this parameter, contact a FIMAP service centre or refer to [“DELAY RESET MENU \(OPT BRUSH MOTOR - PARAMETERS\)”](#) on page 43 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

- i** **NB:** if you need to deactivate the side brushes while working, press the SIDE BRUSH CONTROL button (5) on the control display (**Fig. 4**).
- i** **NB:** the side brush function is not active when the button (5) is grey (**Fig. 4**).
- i** **NB:** if you need to deactivate the vacuum while working, press the VACUUM CONTROL button (6) on the control display (**Fig. 4**).
- i** **NB:** the vacuum function is not active when the button (6) is grey (**Fig. 4**).

## STARTING WORK

We will take sweeping mode (with the ECO MODE working program) as an example. To start working, proceed as follows:

1. Carry out all the checks listed in the [“WORK PREPARATION CHECKLIST”](#) on page 39.
2. Sit on the driver’s seat.
3. Insert the key (1) in the slot (2) on the right-hand side of the column (**Fig. 1**).
4. Turn on the machine and make a quarter turn clockwise with the key (1) (**Fig. 2**).
5. At switch-on, the control display visualises a sequence of start-up screens showing the software releases of the electric boards that make up the machine.



6. After a few seconds, the Main page will automatically appear (**Fig. 3**).



- i** **NB:** the upper part of the screen (3) shows the machine hour meter (**Fig. 3**). See [“HOUR METER”](#) on page 52.

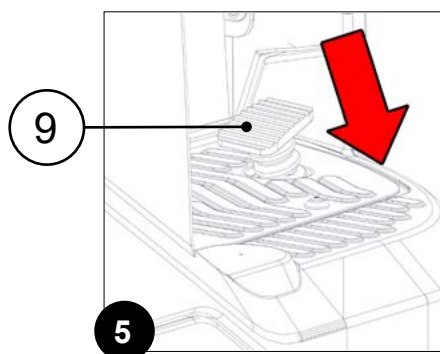
**i** **NB:** the upper part of the screen (4) shows the charge level of the batteries in the machine (**Fig. 3**). See [“BATTERY BOX CHARGE LEVEL INDICATOR” on page 51](#).

7. The machine is now in transfer mode. See [“TRANSFER WORKING MODE” on page 45](#).

8. Activate ECO MODE by pressing the button (5) on the control display (**Fig. 3**). See [“ECO MODE WORKING PROGRAM” on page 40](#).

**i** **NB:** when ECO MODE is selected, the control display will switch from the MAIN screen (**Fig. 3**) to the ECO MODE screen with the sweeping system (7), side brushes (6) and vacuum system (8) all active (**Fig. 4**).

**i** **NB:** by selecting the ECO MODE working program, the predefined performance levels (according to those selected in the function board parameter list) are automatically loaded. To change the working program parameters, contact your FIMAP service centre of reference or the one closest to you. Alternatively, send an email to [service@fimap.com](mailto:service@fimap.com) or visit the website [www.fimap.com](http://www.fimap.com)



9. Press the drive pedal (9) (**Fig. 5**) to begin moving the machine.

**i** **NB:** as soon as the drive pedal is pressed, the central brush and side brushes are automatically moved to their working position.

**i** **NB:** the central brush motor is only started up when the central brush is in the working position.

**i** **NB:** the vacuum motor is only started up when the central brush is in the working position.

**i** **NB:** if the machine is stopped and the drive pedal (9) released, the central brush will automatically move to the intermediate position (raised off the floor) after the DELAY RESET (BRUSHES BRUSH MOT) time. To change this parameter, contact a FIMAP service centre or refer to [“DELAY RESET MENU \(BRUSH MOTOR - PARAMETERS\)” on page 37](#) of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

**i** **NB:** if the machine is stopped and the drive pedal (9) released, the side brushes will automatically move to the position where they are raised off the floor after the DELAY RESET (OPTIONAL OPT. BRUSH) time. To change this parameter, contact a FIMAP service centre or refer to [“DELAY RESET MENU \(OPT BRUSH MOTOR - PARAMETERS\)” on page 43](#) of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

10. The machine will now work at full efficiency levels until the end of the job, or until the battery box needs recharging.

**i** **NB:** pick up any large pieces of waste before carrying out the cleaning operations; pick up wire, tape, string, large pieces of wood, or any other types of refuse that could wrap around the brushes or become entangled.

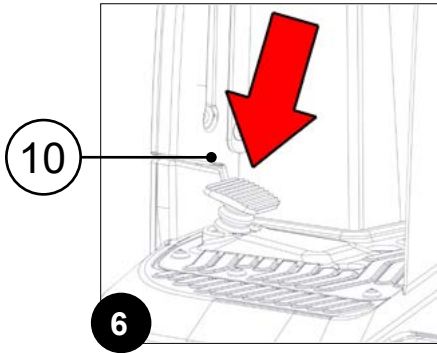
**i** **NB:** drive the machine along the most linear path possible. Avoid hitting any obstacles and scratching the sides of the machine. Overlap the working widths by several centimetres. To avoid damage to carpet floors, do not turn the steering wheel from one side to the other while the machine is stationary.

**i** **NB:** avoid turning the steering wheel too sharply while the machine is moving, as the machine reacts quickly to steering wheel movements. Avoid swerving suddenly, unless there is an emergency.

**i** **NB:** adjust the machine speed and brush pressure as necessary for the job in hand. Use the appropriate brush pressure settings for the areas being cleaned.

**i** **NB:** remember only the central brush has a dust vacuum system; the side brushes can only channel dirt towards the central part of the machine.

**i** **NB:** if the results are not satisfactory, stop and refer to the TROUBLESHOOTING section of this manual. See [“TROUBLESHOOTING” on page 84.](#)



**i** **NB:** in the left part of the footboard, there is a brake pedal (10) (**Fig. 6**) which can be used to stop the machine when required.

**i** **NB:** when the brake pedal (10) is pressed, the red rear lights become brighter to indicate that the service brake pedal has been pressed.

**i** **NB:** if the accelerator pedal (9) is released while moving, the machine electronics start to slow down with a gentle deceleration ramp. The electric brake is automatically engaged only when the machine stops completely.

**i** **NB:** the machine is fitted with a mechanical pedal brake in addition to the machine electronics that handle the braking process. The mechanical braking action depends on the degree of force applied to the pedal (10).

**i** **NB:** drive the machine slowly on inclines and descents. Use the brake pedal to control the machine speed. On slopes, carry out the job by moving the machine upwards rather than downwards.

**!** **ATTENTION:** when using the machine, slow down on slippery or sloping surfaces.

**!** **ATTENTION:** the steering wheel must be turned fully to the right or left if the machine is stopped on a slope.

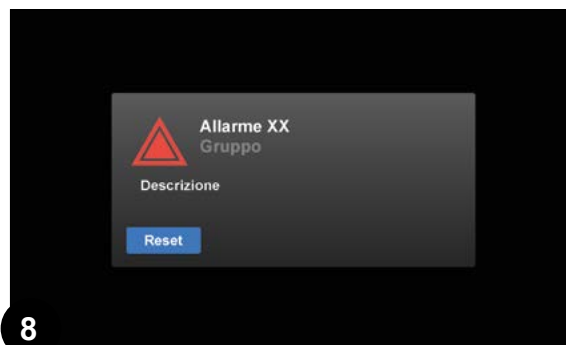
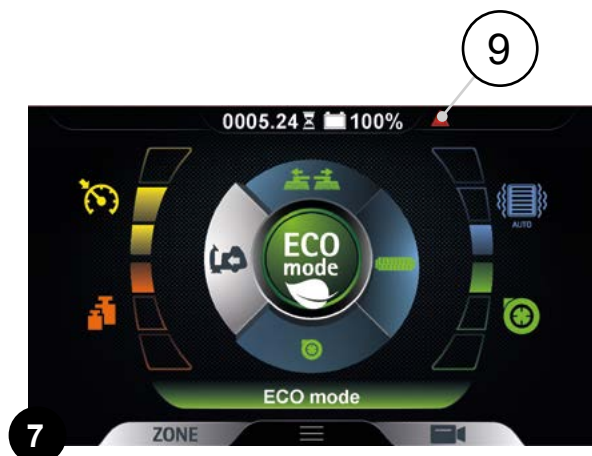
**!** **ATTENTION:** slow down on ramps and slippery surfaces.

**!** **WARNING:** do not use the machine in areas where the ambient temperature is higher than 43°C (110°F) or lower than freezing 0°C (32°F).

**!** **ATTENTION:** in transport mode, the machine can only be moved on ramps up to 14% (8°) if the debris hopper is full; in sweeping mode, with GVW, it can work on slopes up to 12.5% (7°). For all other technical data, contact your FIMAP service centre of reference or the one closest to you, or visit the website [www.fimap.com](http://www.fimap.com).

**i** **NB:** after using the machine, follow the daily maintenance procedures. See [“MAINTENANCE PLAN” on page 68.](#)

**!** **ATTENTION:** when the alarm symbol (9) appears on the main screen (**Fig. 4**), along with the pop-up alarm window (**Fig. 7**), stop the machine and refer to [“ALARM SCREEN” on page 62.](#) If the problem persists, contact your FIMAP service centre of reference or the one closest to you. Alternatively, send an email to [service@fimap.com](mailto:service@fimap.com) or visit the website [www.fimap.com](http://www.fimap.com).



## BATTERY BOX CHARGE LEVEL INDICATOR



In the upper central section of the main screen, you can see the battery charge represented by a graphic symbol in the shape of a battery (1) and a numerical value indicating the charge percentage (2).

**i** **NB:** the battery state of charge percentage is calculated with respect to their maximum capacity, and the function board transforms the voltage value of the batteries into a percentage value.

**i** **NB:** when the battery charge level is between 100% and 80%, the symbol (1) appears as shown here.

**i** **NB:** when the battery charge level is between 70% and 40%, the symbol (1) appears as shown here.

**i** **NB:** when the battery charge level is between 30% and 00%, the symbol (1) appears as shown here.

**i** **NB:** with a residual charge of 30%, the symbol will begin flashing and then turn red after a few seconds.

**i** **NB:** a few seconds after the residual charge has reached 20%, the brush motor switches off automatically. The remaining charge is sufficient, however, for completing the task before recharging the battery box.

**i** **NB:** a few seconds after the battery charge level reaches 10%, the vacuum motor switches off automatically. With the remaining charge, it is still possible, however, to move the machine to the designated battery box recharging station.

**i** **NB:** the function board in the machine is programmed by the factory to work with Gel60 batteries. To change the type, refer to [“BATTERY TYPE MENU \(BATTERY - GENERAL SETTINGS\)”](#) on page 27 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned together with the machine documentation.

## HOUR METER



In the upper central section of the main screen, you can see the hour meter represented by a symbol (1) and a numerical value (2).

- i** **NB:** the number value (2) allows the user to view the machine's total time of use via a series of numbers.
- i** **NB:** the digits preceding the "." identify the hours, while the digits that come after the "." identify the tenths of an hour (a tenth of an hour corresponds to six minutes).

- i** **NB:** to modify the hour meter shown on the control display, contact a FIMAP service centre or refer to ["PARTIAL HMT MENU TO DISPL \(HOUR METER SETTINGS - GENERAL SETTINGS\)"](#) on page 29 of the "OPERATOR INTERFACE CONFIGURATION MANUAL" consigned with the machine documentation.

## EMPTYING THE DEBRIS HOPPER

If you notice that the machine can no longer collect the dirt from the floor while cleaning, the debris hopper in the rear part of the machine might be full.



To empty the debris hopper, proceed as follows:

1. Take the machine to the designated waste disposal area.

**i** **NB:** the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

2. Bring the front of the machine close to the waste container.

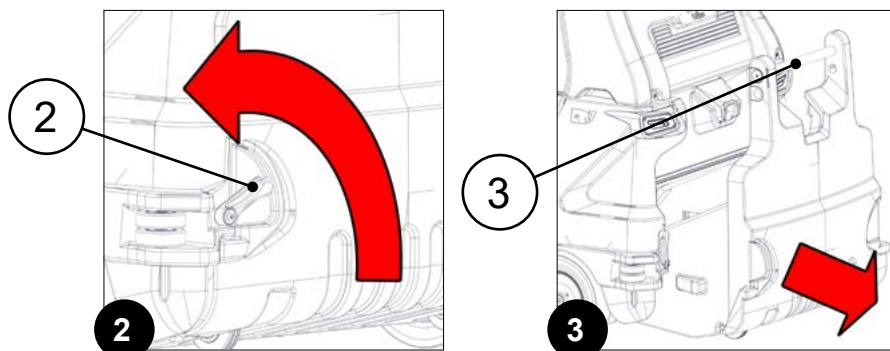
3. Activate the filter shaker by pressing the "FILTER SHAKER CONTROL" button (1) on the control station (Fig. 1).

**!** **ATTENTION:** do not keep the switch (1) pressed longer than ten seconds; repeat this operation two or three times.

4. Perform all the operations required to secure the machine. See ["MACHINE SAFETY"](#) on page 30.

**!** **CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

5. Turn the latches (2) to release the debris hopper (Fig. 2) (turn the left latch anti-clockwise and the right latch clockwise).
6. Gripping the handle (3) on the debris hopper (Fig. 3), remove it from the machine.



7. Take the debris hopper to the appropriate location for unloading and empty it.

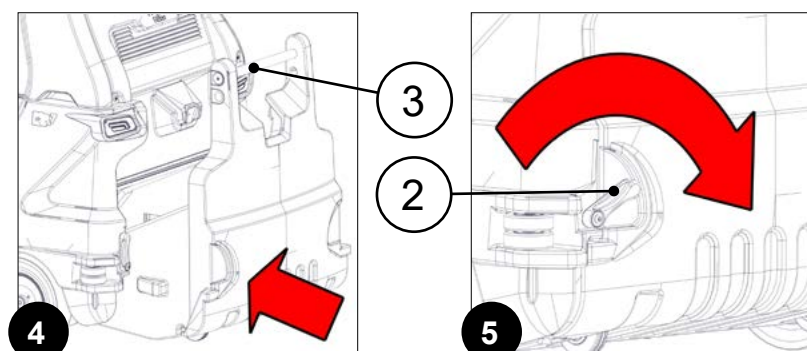
**i** **NB:** in the case of machines fitted with removable debris hopper bins, take the bins out of the hopper and empty them. When they have been emptied, reposition them in the debris hopper.

**!** **ATTENTION:** when using the machine, pay attention to the filling of the debris hopper; it can contain up to 170kg (375 lb). Respect the general rules for manual movement of the loads. If heavy materials are incorrectly lifted and/or moved, this may cause back injury or other types of personal injury.

**!** **ATTENTION:** when using the machine with removable debris hopper bins, pay attention to the filling of the bins; a single one can contain up to 30kg (66 lb). Respect the general rules for manual movement of the loads. If heavy materials are incorrectly lifted and/or moved, this may cause back injury or other types of personal injury.

8. Gripping the handle (3), insert the debris hopper in the machine (**Fig. 4**).

9. Turn the latches (2) to fix the debris hopper to the body (**Fig. 5**) (turn the left latch clockwise and the right latch anti-clockwise).



## ADDITIONAL FUNCTIONS

### REGULATING THE FORWARD SPEED

To adjust the forward speed, proceed as follows:

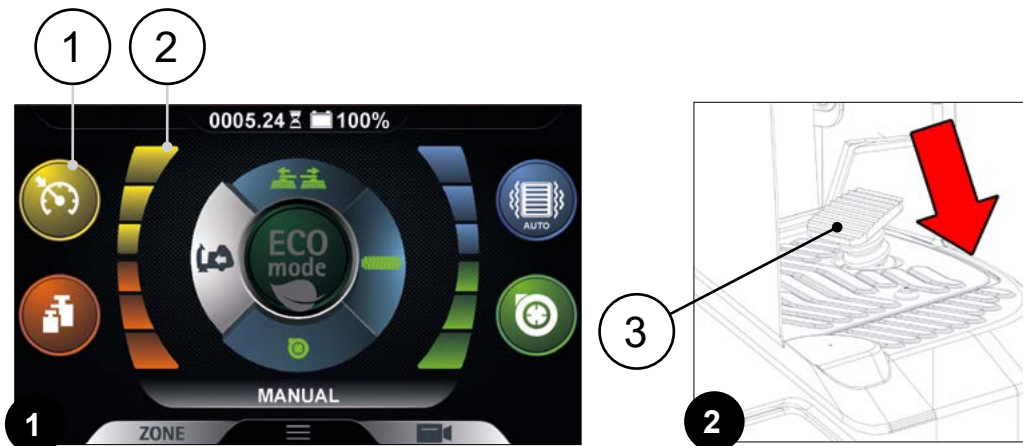
**i** **NB:** the forward speed can only be adjusted when the manual working program is active. See [“MANUAL - MODE WORKING PROGRAM” on page 41](#).

1. During the first few metres, check that the forward speed is adequate to the grip conditions.
2. To adjust the speed, press the button (1) on the control display (**Fig. 1**).

**i** **NB:** the forward speed can be adjusted to three levels, from minimum 1 to maximum 3, with each press on the button (1) increasing the speed cyclically. The set level is shown by the symbol (2) on the main screen (**Fig. 1**).

**i** **NB:** to change the machine forward speed values, refer to [“SPEED LEVEL MENU \(SPEED SETTINGS - TRACTION MENU\)” on page 51](#) of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

**i** **NB:** the machine forward speed can be adjusted by pressing the pedal (3) more or less (**Fig. 2**). The more you press, the higher the speed (within the limits of the level selected beforehand).



## SELECTING THE FILTER SHAKER METHOD

The filter shaker can be used in two ways:

- **Automatically:** the function board in the machine activates the filter shaker after a certain period of time.
- **Manually:** the operator decides when to activate the filter shaker.

**i** **NB:** when the machine is switched on, the “FILTER SHAKER” function is set to automatic mode by default.

### AUTOMATIC FILTER SHAKER USE

If the filter shaker is used in automatic mode but you want to adjust the activation frequency, proceed as follows:



**i** **NB:** the activation frequency of the vacuum motor filter shaker can only be adjusted when the manual working program is active. See [“MANUAL MODE WORKING PROGRAM” on page 41.](#)

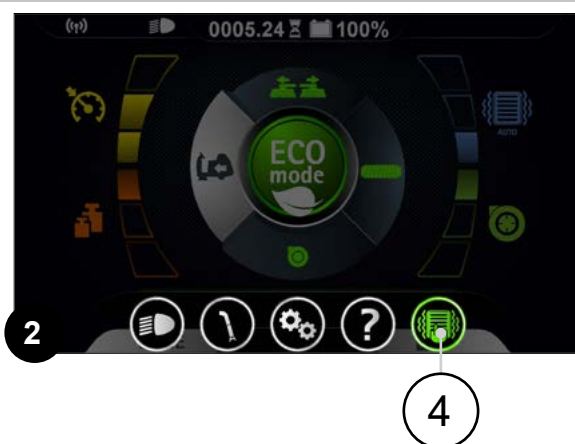
1. Press the button (1) on the control display (**Fig. 1**).

**i** **NB:** the activation frequency of the vacuum motor filter shaker can be adjusted to three levels, from minimum 1 to maximum 3, with each press on the button (1) increasing the speed cyclically. The set level is shown by the symbol (2) on the main screen.

**i** **NB:** in automatic mode, the filter shaker is automatically commanded by the function board according to the three “Shake Frequency” parameters that manage the standby time before the filter shaker begins working automatically. To change the “Shake Frequency” time, refer to [“SHAKE MOTOR FREQ MENU \(SHAKE MOTOR - VACUUM MOTOR\)” on page 42](#) of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

**i** **NB:** when the “Shake Frequency” time expires, the vacuum motor is automatically switched off and, after two seconds, the filter shaker motor is activated for just over one second. Once the filter shaker has been activated, the vacuum motor starts up again.



### MANUAL FILTER SHAKER USE



If you want to use the filter shaker in manual mode, proceed as follows:

1. Press the drop-down menu activation button (3) on the control display (**Fig. 1**).
2. Press the manual filter shaker activation/deactivation button (4) (**Fig. 2**).

**i** **NB:** the manual filter shaker function is active when the button (4) is green and disabled when the button is grey.

The filter shaker function is in automatic mode when the button (1) contains the  symbol, and in manual mode when the button (1) contains the  symbol.

**i NB:** in manual mode, the vacuum motor is automatically switched off when the button (1) is pressed and then, after two seconds, the filter shaker motor is activated for just over one second. Once the filter shaker has been activated, the vacuum motor starts up again.

## ADJUSTING THE VACUUM MOTOR PERFORMANCE LEVEL




To adjust the vacuum motor performance level, proceed as follows:

**i NB:** the vacuum motor performance can only be adjusted when the manual working program is active. See [“MANUAL MODE WORKING PROGRAM” on page 41.](#)

1. During the first few metres of work, check that the vacuum system perfectly collects all the dust lifted while working.
2. To adjust the vacuum motor performance level, press the button (1) on the control display.

**i NB:** vacuum motor performance can be adjusted to three levels, from minimum 1 to maximum 3, with each press on the button (1) increasing the speed cyclically. The set level is shown by the symbol (2) on the main screen.

**i NB:** to change the vacuum motor performance values, refer to [“VAC NOISE LEVEL MENU \(VACUUM MOTOR - VACUUM MOTOR\)” on page 41](#) of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

**i NB:** the motor can be deactivated by pressing the button (3) on the control display. When the  icon is green, the vacuum motor is active; when it is grey, the motor is disabled.

## ADJUSTING THE PRESSURE EXERTED ON THE BRUSH



To adjust the pressure exerted on the brush, proceed as follows:

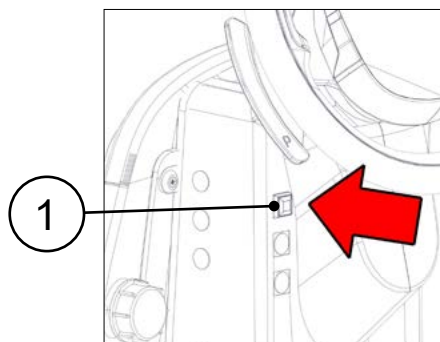
**i NB:** the pressure exerted on the brush can only be adjusted when the manual working program is active. See [“MANUAL MODE WORKING PROGRAM” on page 41.](#)

1. During the first few metres of work, check that the pressure exerted on the brush head is enough to remove the dirt on the floor, but not so much that it damages the floor itself.
2. To adjust the pressure exerted on the brush, press the button (1) on the control display.

**i NB:** the pressure exerted on the brush can be adjusted to three levels, from minimum 1 to maximum 3, with each press on the button (1) increasing the level cyclically. The set level is shown by the symbol (2) on the main screen.

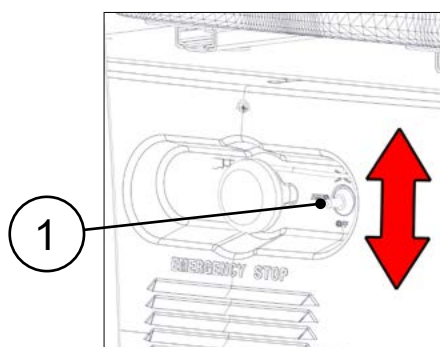
- i** **NB:** to change the pressure exerted on the brush, refer to [“PRESSURE LEVEL MENU \(BRUSH MOTOR - PARAMETERS\)”](#) on page 38 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

## BUZZER



The machine is equipped with a buzzer. If you need to sound a warning, just press the button (1) on the steering column.

## SERVICE LIGHTS

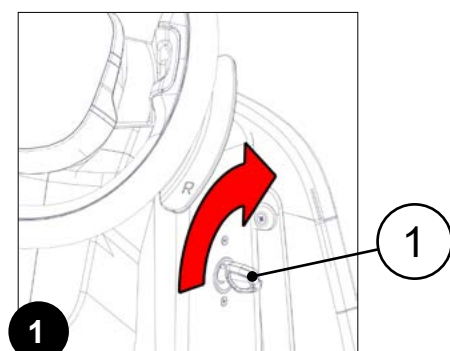


The machine can be equipped with the exclusive service lights pack. The service lights package offers increased visibility of the parts which could require operator inspection, illuminating the relative zones with LED lights.

To activate the service lights, use the switch (1) under the control panel. This switch has three working positions:

- **ON:** set the switch to this position when you want the service lights to remain on, regardless of the status of the microswitches in the various doors.
- **OFF:** set the switch to this position when you want the service lights to remain off.
- **AUTOMATIC:** set the switch to this position when you want the service lights to turn on only when the microswitches in the various doors are activated.

## WORKING HEADLIGHTS



The machine is equipped with front and rear lights. When the machine is turned on using the key switch (1) on the right-hand side of the steering column (**Fig. 1**), the front position lights and rear tail lights are activated.

- i** **NB:** to activate or deactivate the working headlights function, it is necessary to modify the “WORKLIGHT ENABLING” parameter. See [“WORKLIGHT ENABLING MENU \(CONFIG - GENERAL SETTINGS\)”](#) on page 34 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

If you want to increase the brightness of the front lights, proceed as follows:

1. Press the drop-down menu activation button (2) on the control display (**Fig. 2**).
2. Press the manual filter shaker activation/deactivation button (3) (**Fig. 3**).

- i** **NB:** the headlight brightness increase function is active when the button (3) is green and disabled when the button is grey.



1



4

## SIDE BRUSH

1

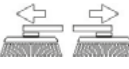
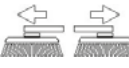


The standard version of the machine is equipped with the right-hand side brush only, but the left-hand one can also be fitted upon request.

The side brushes are an essential tool when the areas to be cleaned feature shelves or other similar furniture.

The side brushes are able to extend beyond the total width of the machine, thus being able to clean flush with the wall and pass under shelves. In this way the entire room is cleaned in one single step, and nothing is left behind.

If you need to use the side brushes while working in sweeping mode, press the SIDE BRUSH CONTROL button (1) on the control display.

- i NB:** when the side brush supports are in the working position, the  icon turns green.
- i NB:** by pressing the button (1), the side brush supports will begin to move towards the outside of the machine.
- i NB:** the gearmotors in the side brush supports will start working simultaneously with the gearmotors in the brush head.
- i NB:** if you want to bring the side brush supports back into their idle position, press the button (1). When the side brush supports are in their idle position, the  icon turns grey again.
- i NB:** if the drive pedal is released when working, after a few seconds the side brush supports are automatically brought to their idle position.
- i NB:** to regulate the standby time before the side brushes rise off the floor, alter the “DELAY RESET (OPTIONAL BRUSHFUNC.)” parameter. See [“DELAY RESET MENU \(OPT BRUSH MOTOR - PARAMETERS\)”](#) on page 43 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

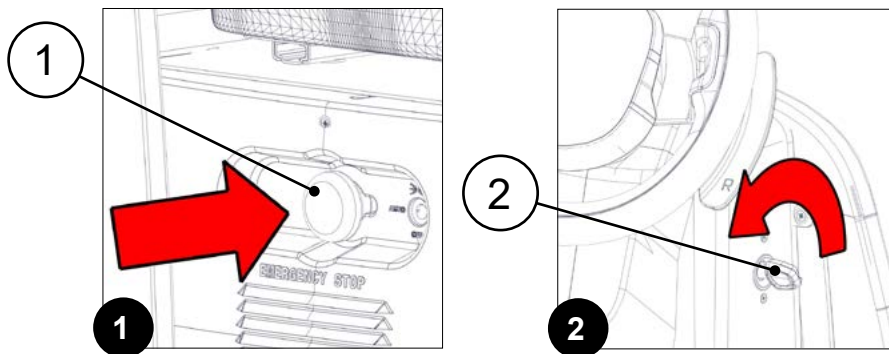
## EMERGENCY BUTTON

The machine is equipped with an emergency button. If any problems are encountered during the work activities, proceed as follows:

1. Press the emergency button (1) on the control panel (**Fig. 1**).

**⚠ CAUTION:** this command interrupts the electrical circuit that goes from the batteries to the machine system.

2. Once the machine has stopped, turn the main switch to its "0" position by making a quarter turn anti-clockwise with the key (2) (**Fig. 2**).



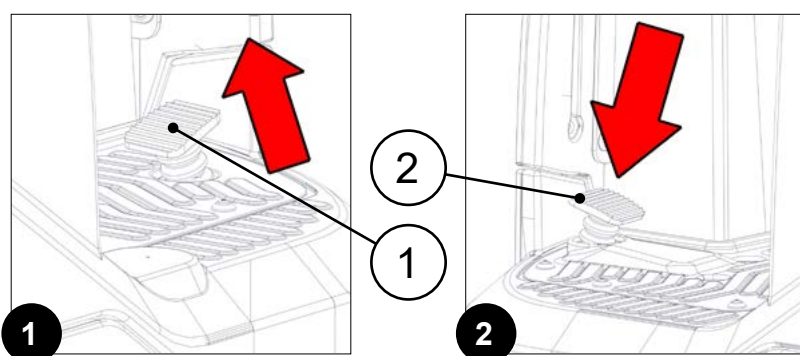
3. Deactivate the emergency button (1) by pulling it.
4. Eliminate the anomaly that caused the problem.

**i NB:** if the anomaly persists, contact a technician at the FIMAP service centre.

5. Carry out all the procedures for turning on the machine.

## BRAKING CONTROL

The function board in the machine manages a gradual deceleration when the accelerator pedal (1) is released (**Fig. 1**). In addition, the machine is fitted with a mechanical brake commanded by the pedal (2) (**Fig. 2**).



**i NB:** if the accelerator pedal (1) is released while moving, the machine electronics start to slow down with a gentle deceleration ramp that will stop the machine in a parameterised "DECELERATION RAMP STOP" time. The electric brake is automatically engaged only when the machine stops completely.

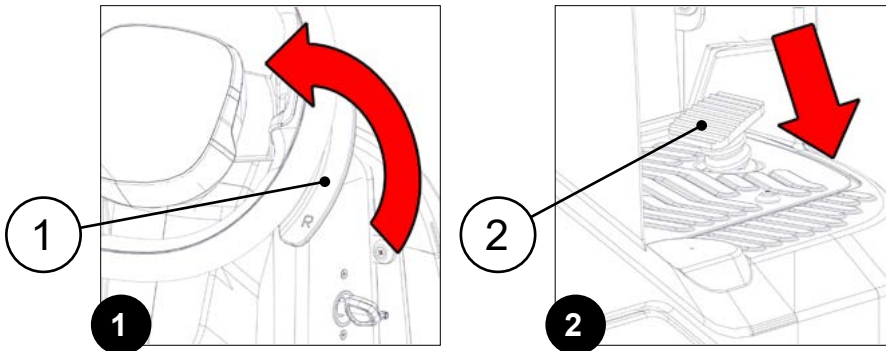
**i NB:** to change the machine stop time, alter the "DECELERATION RAMP STOP" parameter. See ["DECELERATION RAMP MENU \(SPEED SETTINGS - TRACTION MENU\)"](#) on page 46 of the "OPERATOR INTERFACE CONFIGURATION MANUAL" consigned with the machine documentation.

**i NB:** the machine is fitted with a mechanical pedal brake (2) in addition to the machine electronics that handle the braking process. The mechanical braking action depends on the degree of force applied to the pedal (2).

## REVERSE

The machine is equipped with electronic traction control. To engage the reverse gear, proceed as follows:

1. Stop the machine.
2. Engage the “REVERSE GEAR ACTIVATION/DEACTIVATION” lever (1) underneath the steering wheel (**Fig. 1**).
3. Press the drive pedal (2) (**Fig. 2**) to start the machine moving in reverse.



**! CAUTION:** the reverse speed is slower than the forward movement, to comply with occupational safety regulations. To change the reverse speed, refer to [“MAX BACKWARD SPEED MENU \(SPEED SETTINGS - TRACTION MENU\)”](#) on page 48 of the “OPERATOR INTERFACE CONFIGURATION MANUAL” consigned with the machine documentation.

**i NB:** to disengage the reverse gear, move the lever (1) underneath the steering wheel again.

**i NB:** once the lever has been engaged (1), the acoustic signalling device will be activated in order to signal that the machine's reverse gear has been engaged.

**i NB:** while reversing, the image from the connected video camera is displayed across the full screen (in place of the main screen).

**i NB:** the camera is a visual aid designed for use during reversing manoeuvres.

**! DANGER:** the rear camera system does not substitute the driver's responsibility to drive with due care and diligence.

**i NB:** keep the camera free of dirt. Do not clean with sharp objects, degreasers, wax or biological based products. Use only a soft cloth.

**! ATTENTION:** the distances shown on the display may differ from the actual distances.

**! WARNING:** do not place objects in front of the camera.



**i** **NB:** during operation, the display (**Fig. 3**) shows the guide lines (3) that represent the vehicle path and the approximate distance of the objects behind it.

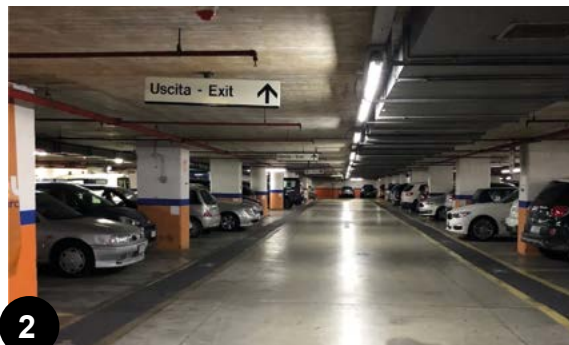
**i** **NB:** the guidelines (3) indicate the trajectory foreseen for the overall dimensions of the machine with the steering wheel in the current position. The guide lines (3) are visualised on the screen as if they were on the floor behind the machine (i.e. they do not depend directly on the movements of the steering wheel). The guide lines (3) are designed to recreate the most protruding parts of the machine.

**!** **ATTENTION:** remember that when the rear view camera is selected, the central display only shows the area behind the machine, therefore pay attention to the sides and to the front when turning in reverse.

## REAR VIEW VIDEO CAMERA

The machine is fitted with a rear video camera which allows you to view the condition of the floor you have just passed over. It also makes reversing easier by showing any possible obstacles.

If you need to see the freshly swept floor while you are working, press the button (1) on the right-hand side of the main screen (**Fig. 1**) and you will immediately see the image from the connected video camera (**Fig. 2**).



**ALARM SCREEN**

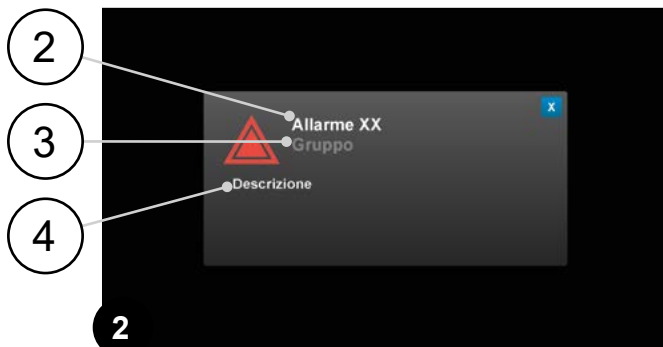


When an error occurs, the symbol (1) is displayed in the information field (**Fig. 1**) and remains visible until the error is resolved.

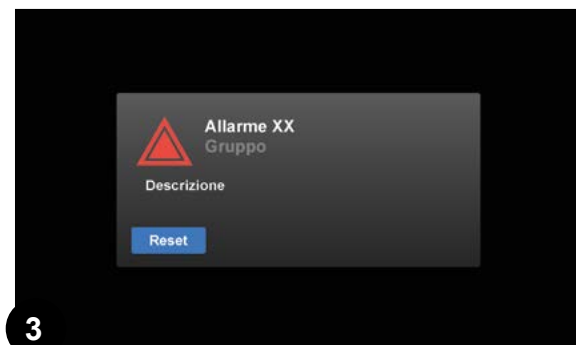
The “ERROR” window will also be superimposed (**Fig. 2**). It shows the following:

- the alarm number (2).
- the group it belongs to (3).
- a brief description (4).

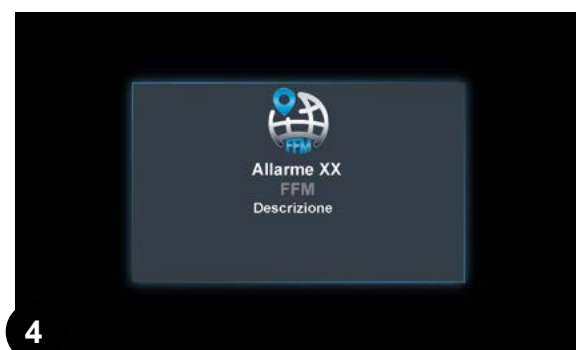
The errors that may arise can be sub-divided into:



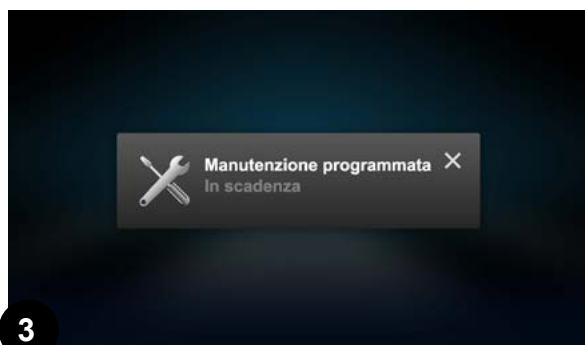
- **lockout errors:** the error window can be closed by pressing “X” (**Fig. 2**). You will return to the previous screen. This does not reset the error, which still remains active along with the symbol (1); the error can only be reset by switching the machine off and then back on again.
- **manual reset:** you can reset the alarm and resume work by pressing the “reset” button (**Fig. 3**). The symbol (1) will be reset and you will return to the previous active work page.
- **auto reset:** automatic reset when the fault is resolved. The error can only be reset by pressing “X” (**Fig. 2**). This does not reset the error, which still remains active. The symbol (1) remains active until the error has been resolved.
- **FFM:** in the event of an error, stop the machine and contact your FIMAP service centre of reference or the one closest to you (**Fig. 4**).



**i NB:** in the event of an error, stop the machine and contact your FIMAP service centre of reference or the one closest to you. Alternatively, you can send an email to [service@fimap.com](mailto:service@fimap.com) or visit the website [www.fimap.com](http://www.fimap.com)

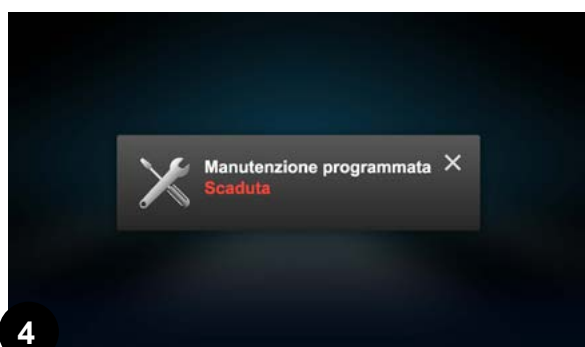


**i** **NB:** if the machine is equipped (upon request) with the automatic SOS device, follow the procedure to send an intervention request. See [“SOS DEVICE” on page 66](#) .



**!** **WARNING:** if the control display shows the alarm SCHEDULED MAINTENANCE DUE (**Fig. 3**) while you are using the machine, contact your FIMAP service centre of reference or the one closest to you to arrange the maintenance.

**!** **WARNING:** if the control display shows the alarm SCHEDULED MAINTENANCE OVERDUE (**Fig. 4**) while you are using the machine, contact your FIMAP service centre of reference or the one closest to you to arrange the maintenance.



**i** **NB:** the scheduled maintenance alarm will remain visible for the period of time identified by the "Service Time" parameter, after which the alarm screen will automatically switch off.

**i** **NB:** if the scheduled maintenance is overdue, each time the machine is switched on, the alarm for this will appear on the control display for the period of time identified by the "Service Time" parameter, after which the alarm screen will automatically switch off.

**i** **NB:** the overdue scheduled maintenance alarm can only be reset by a service technician at the FIMAP service centre.

## TUTORIALS

The internal machine memory contains videos that explain machine start-up, routine maintenance to be carried out on the machine, and extraordinary maintenance to be carried out. To see them, proceed as follows:

1. With the machine enabled, press the drop-down menu button (1) on the working screen (**Fig. 1**).
2. Press the TUTORIAL button (2) (**Fig. 2**).

**i** **NB:** to return to the work screen, press on any point of the screen (except the edges of the display) or else wait three seconds without touching anything.



1



2

3. On the tutorial screen (**Fig. 3**), select the topics you want to study:

- Using the machine (3)
- Daily maintenance (4)
- Extraordinary maintenance (5)



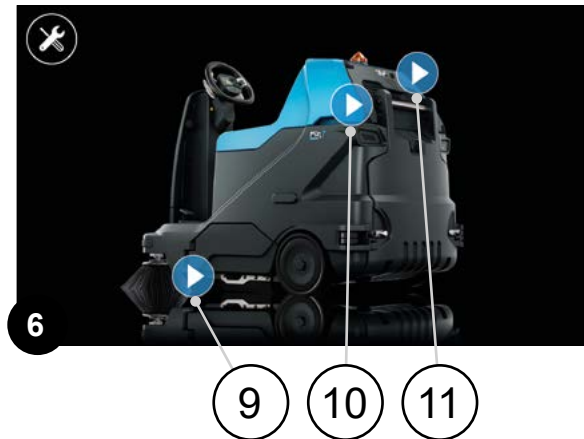
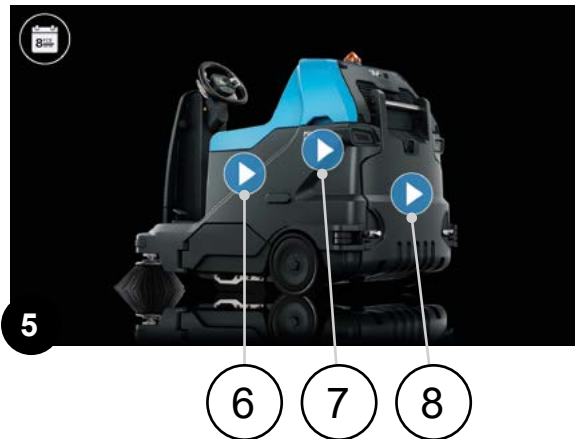
**i NB:** select the “USING THE MACHINE” button (3) to see the video explaining the steps for preparing the machine for work (**Fig. 4**).

**i NB:** select the “DAILY MAINTENANCE” button (4) to see the videos explaining the machine maintenance to be carried out every day (**Fig. 3**). You will see a screen listing the videos available (**Fig. 5**):

- Recharging the batteries (6)
- Cleaning the vacuum filter (7)
- Emptying the debris hopper (8)

**i NB:** select the “EXTRAORDINARY MAINTENANCE” button (5) to see the videos explaining the machine maintenance to be carried out every day (**Fig. 3**). You will see a screen listing the videos available (**Fig. 6**):

- Replacing the brushes (9)
- Replacing the filter bag (10) (only for machines with the vacuum wand kit)
- Replacing the outlet air filter (11) (only for machines with the outlet air filter kit)



## OPTIONAL FUNCTIONS

### BLUE SAFETY LIGHT



On request, the machine can be equipped with a blue safety spotlight above the front dashboard; the purpose of this light is to warn pedestrians of the approach of the machine.

The device is suitable for both indoor and outdoor applications.

It is ideal for use inside warehouses or on forecourts, where architectural structures, furniture or storage racks can prevent full visibility of the moving machine.

**i** **NB:** a blue light is projected onto the ground, warning of the machine's approach and signalling in advance that it will be passing through the area.

**i** **NB:** the blue light safety system increases the overall level of safety by making the vehicle visible when in motion.

**i** **NB:** this system makes it possible to reduce risks in areas where vehicles and people cross over when the machine is in motion.

**i** **NB:** the blue safety light is connected to the machine main switch.

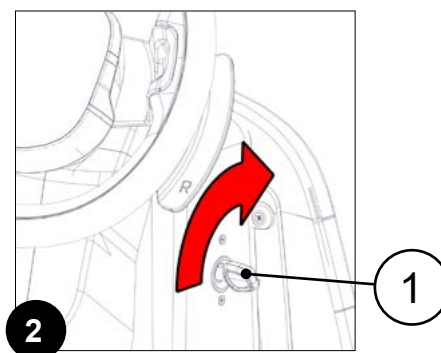
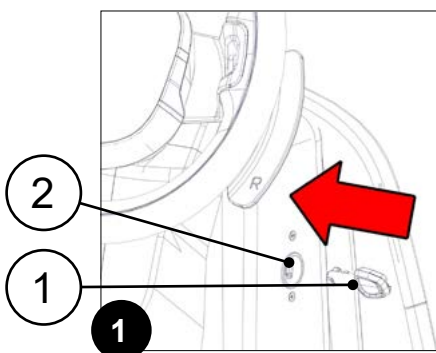
### TAG INSERTION



Upon request, the machine can be equipped with an integrated system that allows the machine fleet to be fully monitored. In order to check that the machines are carrying out the planned work activities correctly, one would always have to be present at the work site. The automatic fleet management system (FFM) allows the status of each machine, the workload, the consumption values, and the maintenance requirements to be constantly monitored, thus ensuring improved fleet management and reduced costs. The FFM system is connected to the data network, which in turn transfers all the information that the user wants to know about each machine in their fleet, in real time.

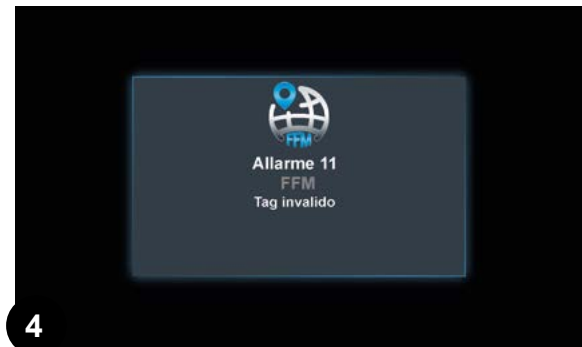
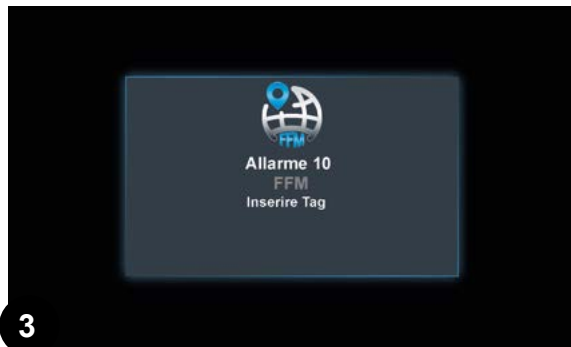
To activate automatic fleet management data logging, proceed as follows:

1. Sit on the driver's seat.
2. Insert the key (1) in the slot (2) on the right-hand side of the column (**Fig. 1**).
3. Turn on the machine and make a quarter turn clockwise with the key (1) (**Fig. 2**).



**i NB:** if the key just inserted is not equipped with a TAG, the alarm 10 will appear on the control display (Fig. 3).

**i NB:** if the owner of the TAG just inserted is not enabled to use it, the AL\_11 alarm will appear on the control display (Fig. 4).

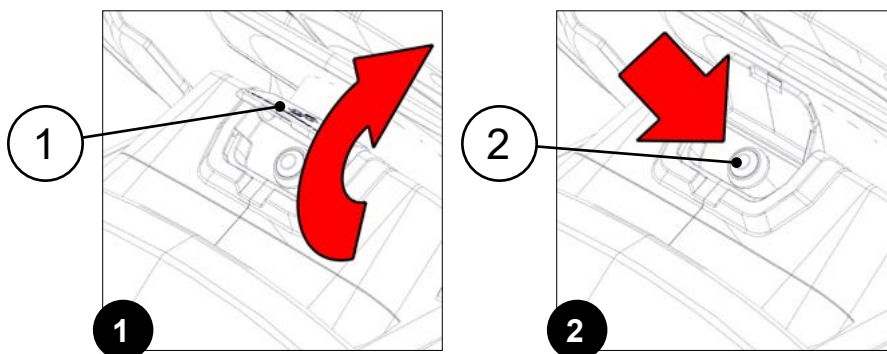


4. The machine is now in transfer mode.
5. To begin the work operations, see the [“STARTING WORK” on page 48.](#)

## SOS DEVICE

Upon request, the machine can be equipped with an automatic SOS device that allows the user to automatically request technical assistance. When the SOS button is pressed, the machine sends a report directly to the Designated Authorised Workshop (valid only for those who have signed up for one of the service agreements), which will immediately perform a diagnostic check on the machine to determine the type of fault encountered. The SOS device can reduce waiting times for maintenance and machine downtime, thus increasing productivity. To activate the SOS device, proceed as follows:

1. When an anomaly occurs, stop the machine.
2. Open the hatch (1) covering the SOS button, located near the steering wheel (Fig. 1).
3. Press the SOS button (2) (Fig. 2).






**i NB:** in order to activate the SOS device, the machine must be equipped with the automatic fleet management kit (FFM).




**i NB:** in order to send a technical assistance request, the machine needs to be on and should be in a zone with data traffic coverage.

## VACUUM WAND




Upon request, the machine can be equipped with a vacuum wand kit for removing waste in areas that are difficult to reach with the machine itself.

-  **WARNING:** only use the vacuum wand kit when the bag filter is inserted. See [“ASSEMBLING THE VACUUM WAND FILTER BAG” on page 38.](#)
-  **WARNING:** never vacuum the following substances: explosive or flammable gases, liquids and reactive powders; reactive metal powders (e.g. aluminium, magnesium, zinc) together with highly alkaline/acidic detergents; organic solutions (e.g. petrol, paint thinners, acetone or diesel oil).
-  **WARNING:** the vacuum wand kit is designed to remove solid substances. Do not attempt to remove anything that is burning or smouldering such as cigarettes, matches or hot cinders.

-  **WARNING:** if the machine is used in dangerous areas (e.g. petrol stations), the relative safety standards must be observed. It is forbidden to use the machine in environments with a potentially explosive atmosphere.
-  **WARNING:** when the vacuum wand is being used, do not bring the nozzle close to delicate organs like ears, mouth, eyes, etc.
-  **WARNING:** the vacuum wand kit is designed and built to be used by a qualified operator to clean (by removing solid dry waste) smooth, compact floors in conditions of verified safety.

To use the vacuum wand kit, proceed as follows:

1. With the machine enabled, press the drop-down menu button (1) on the working screen (**Fig. 1**).
2. Press the vacuum wand kit activation/deactivation button (2) (**Fig. 2**).

 **NB:** the vacuum wand kit is active when the button (2) is green and disabled when it is grey.

3. Remove the vacuum wand from its support and carry out the job.



1



2

## AT THE END OF THE WORK

At the end of the work, and before carrying out any type of maintenance, perform the following operations:

1. Set the machine to TRANSFER mode. See [“TRANSFER WORKING MODE” on page 45.](#)
2. Take the machine to the designated debris hopper emptying area.



**WARNING:** the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.



**CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

3. Follow the debris hopper emptying phases.
4. Carry out all the daily maintenance procedures on the machine. See [“MAINTENANCE PLAN” on page 68.](#)
5. Once the daily maintenance operations are complete, take the machine to the designated storage location.



**ATTENTION:** park the machine in an enclosed place, on a flat surface; near the machine there must be no objects that could either damage it, or be damaged through contact with it.

6. Secure the machine. See [“MACHINE SAFETY” on page 30.](#)

## MAINTENANCE PLAN



The importance of machine maintenance should not be underestimated.

By ensuring the machine is inspected regularly, we can replace all parts that become worn in a timely manner. In addition, we can also recognise faults quickly, thus increasing the useful life of our machine.



**NB:** through its network of certified service centres, FIMAP proposes special offers on maintenance services, like those available in car repair shops. See <https://www.fimap.com/it/fimap/22/maintenance-and-repair.html>

First, it is important to understand the difference between the various types of maintenance:

- routine maintenance is an activity designed to keep the machine in good working order
- extraordinary maintenance regards work carried out to implement substantial updates on the machine



**NB:** the primary purpose of routine maintenance is to maintain the performance of the machine's various functions, checking for any worn or faulty elements. A fault that is not fixed or an excessively worn part could cause damage to the machine or injure persons in the vicinity.



**NB:** the main purpose of extraordinary maintenance is to replace any worn or defective elements.

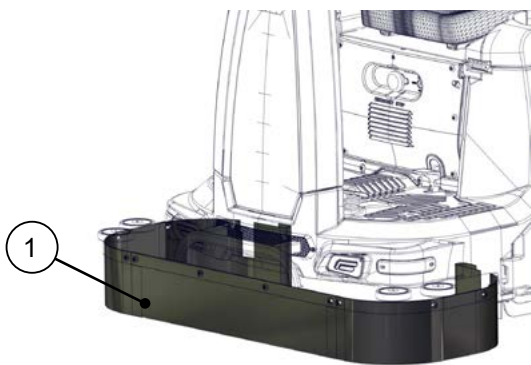


**NB:** in addition, maintenance enables the operator to use the machine in a safer manner, in the knowledge that the risk of unforeseen events has been reduced as far as possible.

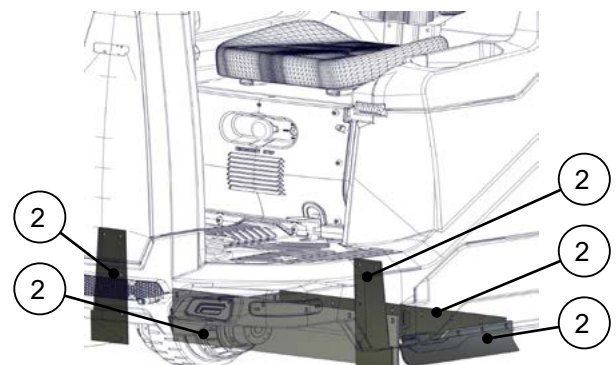
**i NB:** the use and maintenance manual explains all the procedures to be carried out during routine machine maintenance. By following these instructions, even less experienced people can check the machine and replace any parts necessary, taking a DIY approach. It is essential, however, to remember the importance of entrusting the work to true professionals; a specialised technician may encounter details that could escape the notice of a less observant and expert eye.

**i NB:** a dilemma may arise during maintenance: which spare parts are best? FIMAP supplies original spare parts which are exactly identical to the parts on a given machine that need replacing; these are the best choice because they are durable and long-lasting, and help to maintain the performance of the machine.

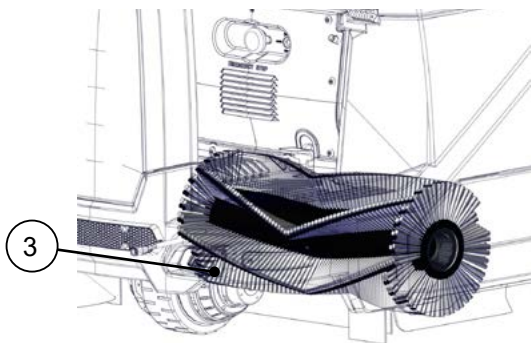
**i NB:** FIMAP service centres use these spare parts; in an unauthorised workshop, however, we recommend explicitly asking the technicians to use only these genuine FIMAP products. Using official spare parts extends the longevity of your machine.



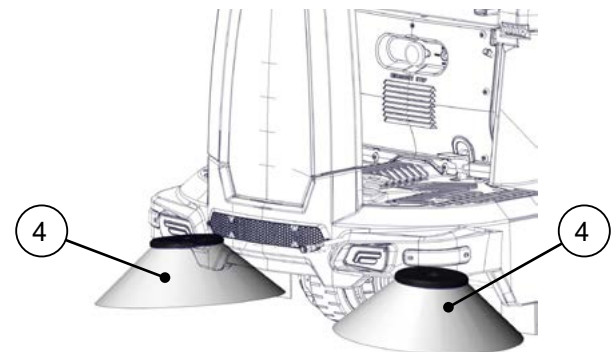
1 Front dust guard kit (optional)



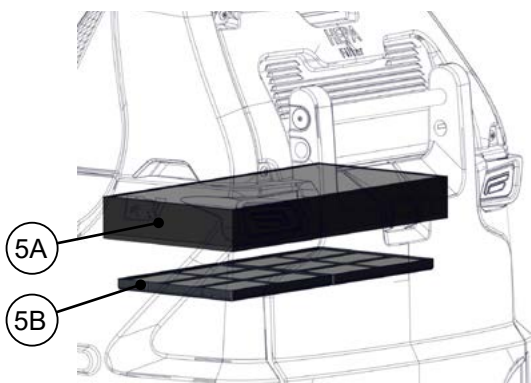
2 Dust guard rubber blades for the central brush



3 Central brush

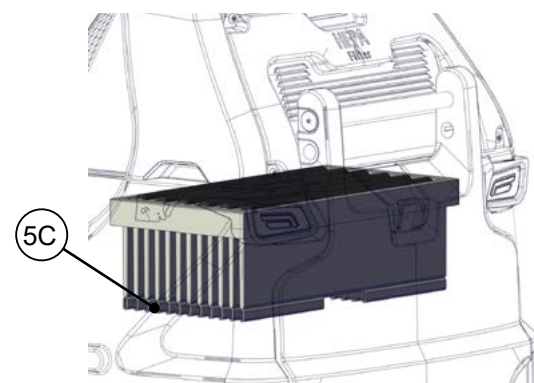


4 Side brushes

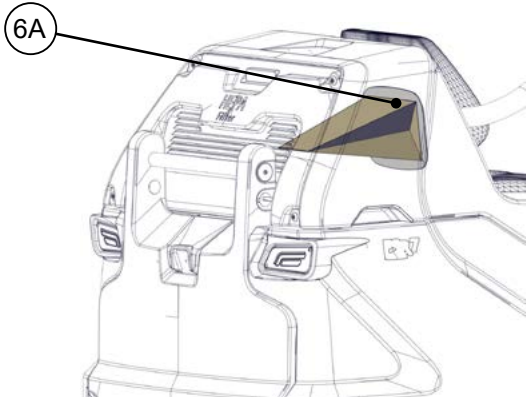


5A Panel filter

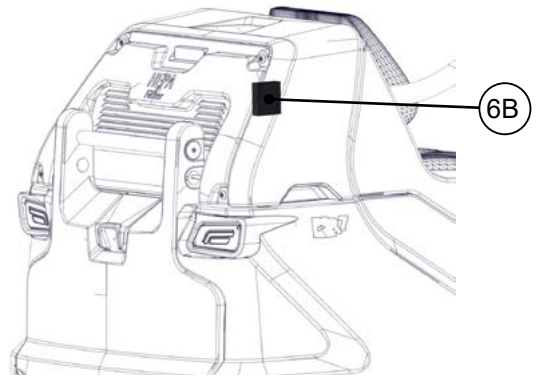
5B Filter for carpet floors (optional)



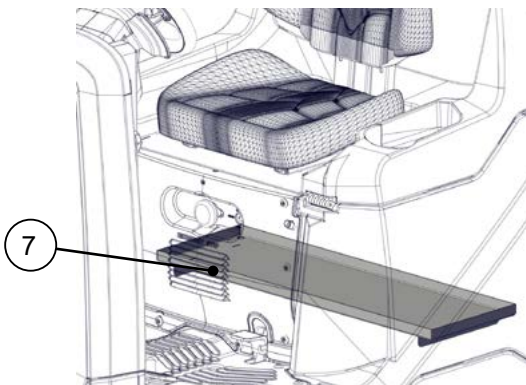
5C Pocket filter (optional)



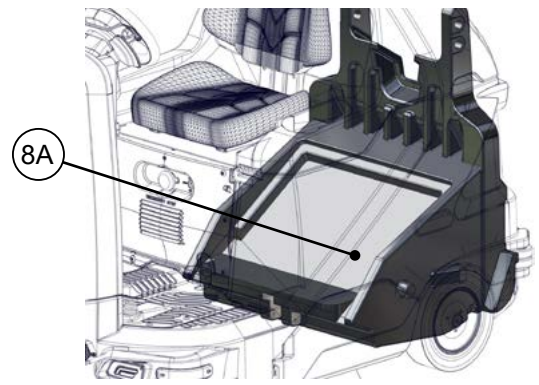
6A Filter bag of the vacuum wand kit (optional)



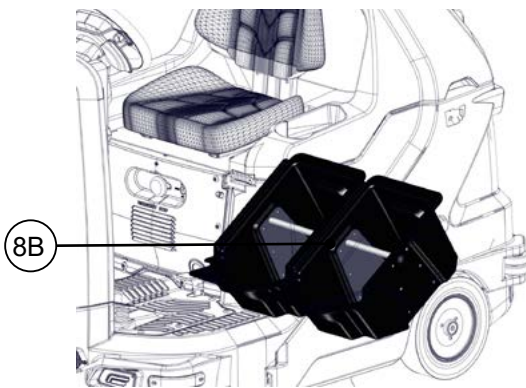
6B Inlet air filter of the vacuum wand kit (optional)



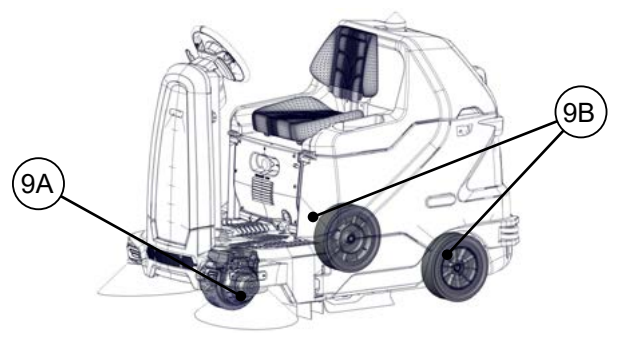
7 Battery base



8A Hopper



8B Debris hopper bins (optional)





9A Front driving wheel

9B Rear wheels

Frequency	Person resp.	Ref.	Description	Procedure	Notes	Page	
<b>At the end of the work</b>	General worker	1	Front dust guard kit (optional)	Clean the surface of the rubber blades		<a href="#">page 73</a>	
		2	Dust guard rubber blades for the central brush assembly	Clean the surface of the rubber blades		<a href="#">page 73</a>	
		3	Central brush	Clean the central brush, removing any waste		<a href="#">page 75</a>	
		4	Side brush	Clean the central brush, removing any waste		<a href="#">page 75</a>	
		5	Panel vacuum filter	To clean the panel filter, follow the instructions provided by the manufacturer	Carefully shake it on a clean, flat surface. Clean with compressed air ( $\leq 7\text{atm}$ ), pointed in the opposite direction to the vacuum flow		<a href="#">page 76</a>
			Pocket vacuum filter	To clean the pocket filter, follow the instructions provided by the manufacturer	Clean the pocket filter with a vacuum cleaner, using compressed air ( $\leq 7\text{atm}$ ) pointed in the opposite direction to the vacuum flow		<a href="#">page 77</a>
<b>Every 50 work hours</b>	General worker	1	Front dust guard kit (optional)	Check for wear and possible faults	If necessary, contact your FIMAP service centre of reference or the one closest to you		
				Check the adjustment in relation to the floor			
	General worker	2	Dust guard rubber blades for the central brush assembly	Check for wear and possible faults	If necessary, contact your FIMAP service centre of reference or the one closest to you		
				Check the adjustment in relation to the floor			
	General worker	3	Central brush	Check for wear and possible faults	If necessary, contact your FIMAP service centre of reference or the one closest to you		
				Check for wear and possible faults			
	Specialised operator	4	Side brush	Check for wear and possible faults	If necessary, contact your FIMAP service centre of reference or the one closest to you		
				Check for wear and possible faults			
	Specialised operator	5	Panel vacuum filter	Check for wear and possible faults	If necessary, contact your FIMAP service centre of reference or the one closest to you		
				Check for wear and possible faults			
	General worker	6	Filter bag of the vacuum wand kit	Replace the filter bag		<a href="#">page 38</a>	
				Clean the vacuum motor intake air filter of the vacuum wand kit		<a href="#">page 78</a>	
	General worker	7	Battery compartment	Check for wear and possible faults	If necessary, contact your FIMAP service centre of reference or the one closest to you		
Check for leakages from the batteries, and bleed them if necessary							

Frequency	Person resp.	Ref.	Description	Procedure	Notes	Page	
Every 100 work hours	General worker	6	Filter bag of the vacuum wand kit	Replace the filter bag		<a href="#">page 38</a>	
			Inlet air filter of the vacuum wand kit	Clean the vacuum motor intake air filter of the vacuum wand kit		<a href="#">page 78</a>	
	Specialised operator	5	Vacuum filter	Check for wear and possible faults		If necessary, contact your FIMAP service centre of reference or the one closest to you	
			Vacuum wand kit	Check for wear and possible faults in the gaskets			
	General worker	8	Hopper compartment	Hopper	Check for wear and possible faults in the debris hopper		
				removable bins (optional)	Check for wear and possible faults in the removable bins (optional)		If necessary, contact your FIMAP service centre of reference or the one closest to you
Every 500 work hours	General worker	9	Rear wheels	Check for wear and possible faults in the rear wheels of the machine		NA	
			Driving wheel	Check for wear and possible faults in the driving wheel of the machine		If necessary, contact your FIMAP service centre of reference or the one closest to you	NA


 **NB:** "general worker" means someone able to handle tasks for which physical effort is required to carry out specific but simple job-related procedures, or responsible for tasks or services calling for aptitude or for knowledge that can be acquired in a few days.

 **NB:** "specialised operator" means someone able to handle specific tasks requiring special practical skills obtained via technical-practical preparation organised by FIMAP service centre technicians.


## ROUTINE MAINTENANCE

Before carrying out any routine maintenance operations, proceed as follows:

1. Take the machine to the maintenance area.

 **WARNING:** the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.


2. Make sure the machine is in a safe condition. See [“MACHINE SAFETY” on page 30](#)).

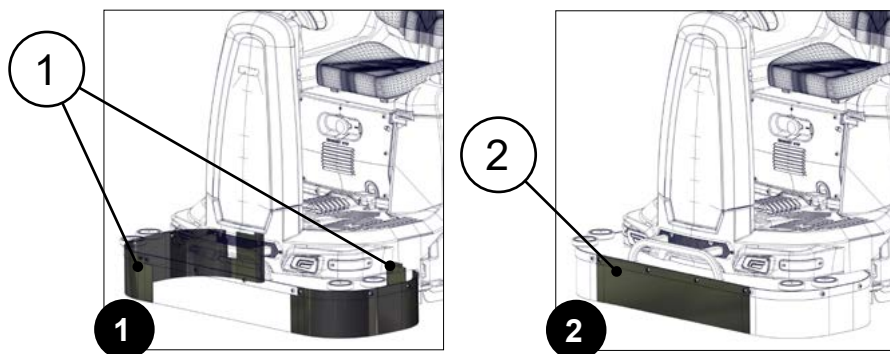
 **CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

## CLEANING THE RUBBER BLADES OF THE FRONT DUST GUARD KIT (OPTIONAL)

To clean the rubber blades in the front dust guard kit, proceed as follows:

1. Go to the front of the machine.
2. Use a damp cloth to clean the side rubber blades (1) of the dust guard kit (**Fig. 1**).
3. Use a damp cloth to clean the central rubber blade (2) of the dust guard kit (**Fig. 2**).

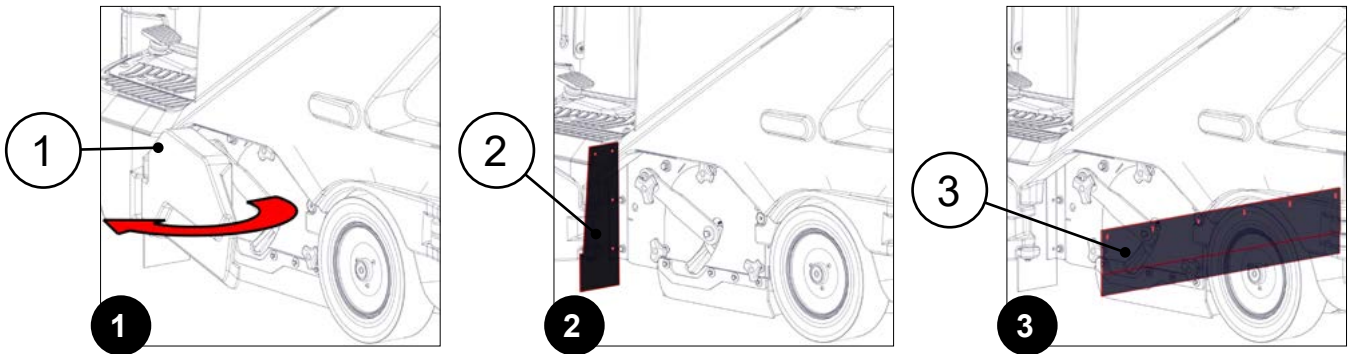
 **NB:** when cleaning the rubber blades, check their condition and state of wear. If they are unfit to be used, contact your FIMAP service centre of reference or the one closest to you.



## CLEANING THE RUBBER BLADES OF THE CENTRAL BRUSH DUST GUARD

To clean the rubber blades in the central brush front dust guard kit, proceed as follows:

1. Go to the left-hand side of the machine.
2. Open the left-hand inspection door (1) (**Fig. 1**).
3. Use a damp cloth to clean the left-hand bulkhead (2) in the machine frame (**Fig. 2**).
4. Use a damp cloth to clean the front flap (3) in the machine frame (**Fig. 3**).



5. Use a damp cloth to clean the left-hand dust guard rubber blade (4) in the brush inspection carter (**Fig. 4**).

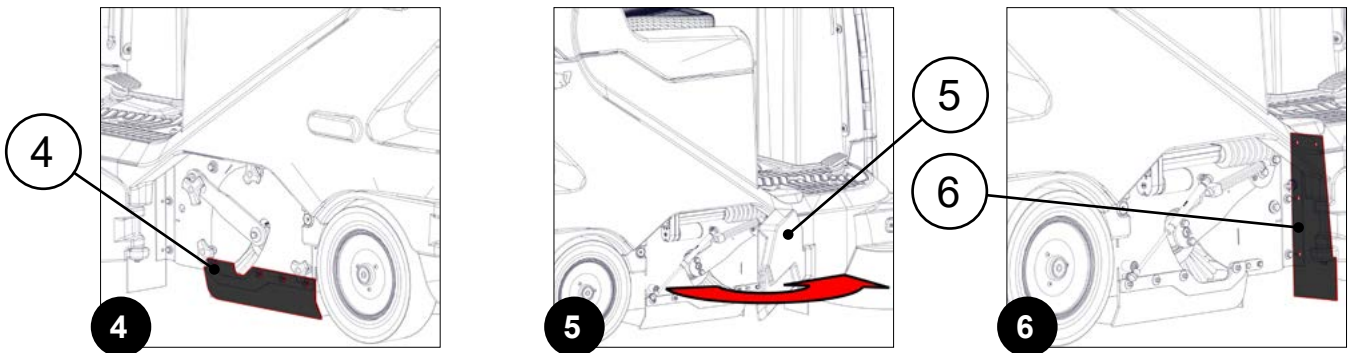
**i NB:** when cleaning the rubber blades, check their condition and state of wear. If they are unfit to be used, contact your FIMAP service centre of reference or the one closest to you.

6. After completing the work, close the left-hand inspection door (1).

7. Go to the right-hand side of the machine.

8. Open the right-hand inspection door (5) (**Fig. 5**).

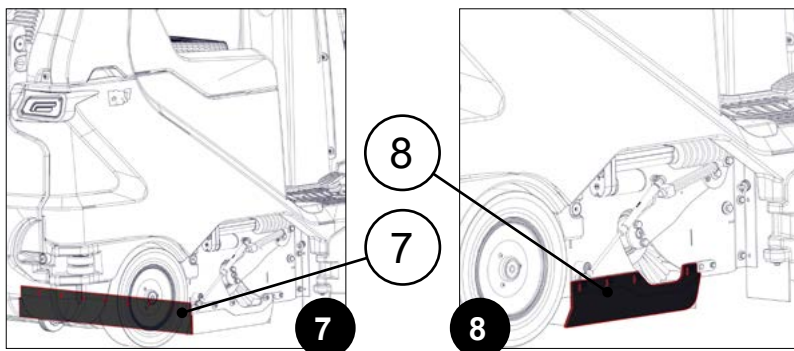
9. Use a damp cloth to clean the right-hand bulkhead (6) in the machine frame (**Fig. 6**).



10. Use a damp cloth to clean the rear rubber blade (7) in the machine frame (**Fig. 7**).

11. Use a damp cloth to clean the right-hand dust guard rubber blade (8) in the machine frame (**Fig. 8**).

12. After completing the work, close the right-hand inspection door (5).

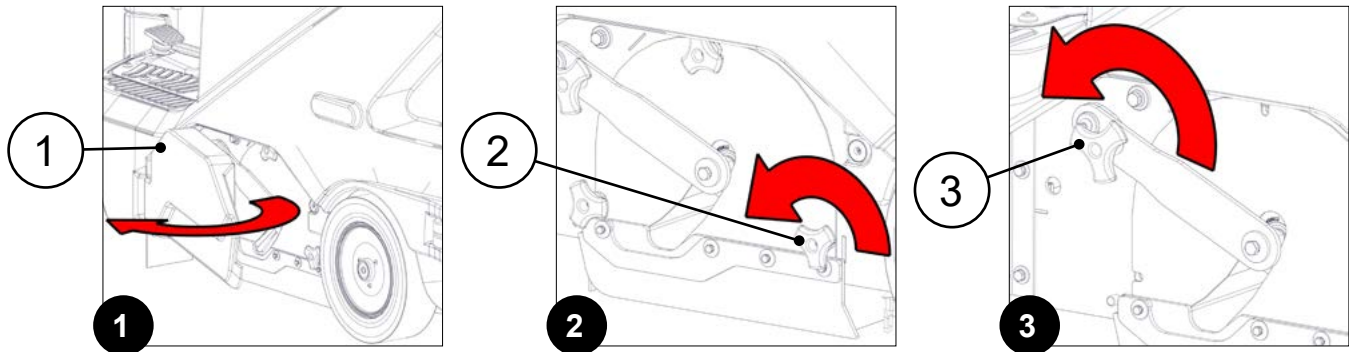


**i NB:** when cleaning the rubber blades, check their condition and state of wear. If they are unfit to be used, contact your FIMAP service centre of reference or the one closest to you.

## CLEANING THE CENTRAL BRUSH

A thoroughly clean central brush will ensure a cleaner floor, thereby reducing costs and increasing environmental sustainability. To clean the central brush, proceed as follows:

1. Open the left-hand inspection door (1) (**Fig. 1**).
2. Loosen the knobs (2) of the central brush inspection carter (**Fig. 2**).
3. Loosen the knob (3) of the central brush lifting arm (**Fig. 3**).

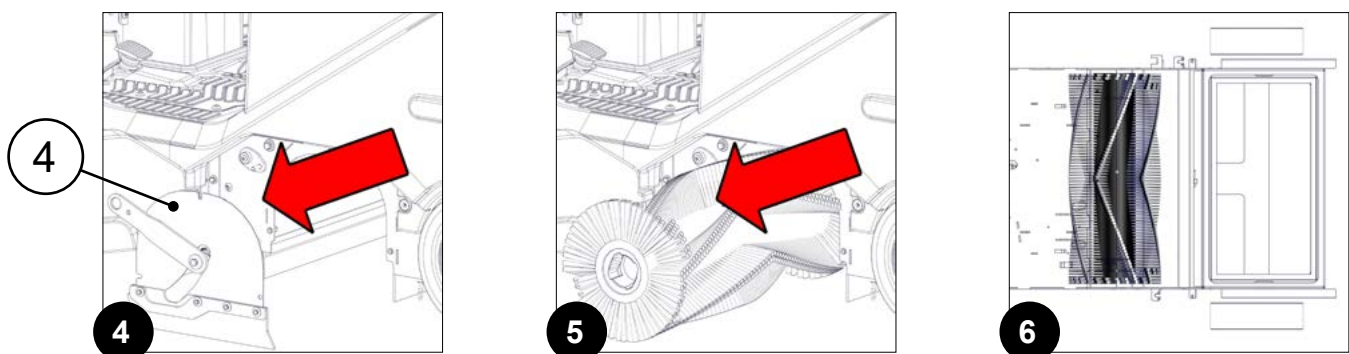


4. Remove the central brush inspection carter (4) (**Fig. 4**).
5. Take the brush out of the tunnel in the machine frame (**Fig. 5**).
6. Clean the brush under a stream of running water to remove any impurities from its bristles.

**i** **NB:** check the wear of the bristles and replace the brush if they are excessively worn (the bristle length must not be less than 15 mm; this measurement is indicated on the brush by the yellow band). See [“REPLACING THE CENTRAL BRUSH”](#) on page 80.

7. After cleaning, repeat the operations in reverse order to reassemble all the parts.

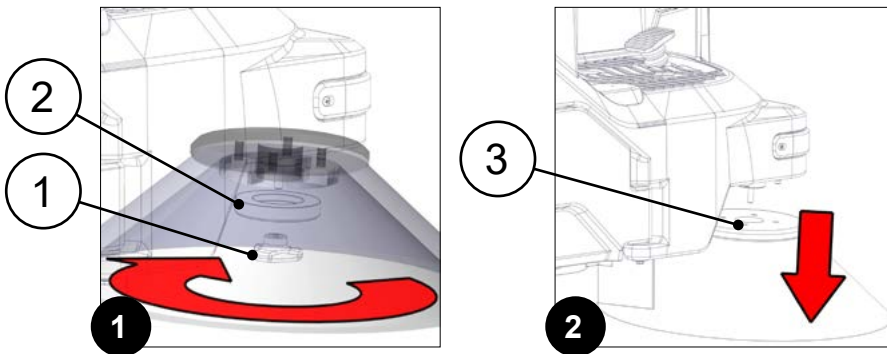
**i** **NB:** when the brush is mounted correctly, the cusps on the brush form an arrow  $\wedge$  when seen from above in the forward movement direction (**Fig. 6**).



## CLEANING THE SIDE BRUSHES

Thoroughly clean side brushes will ensure a cleaner floor, thereby reducing costs and increasing environmental sustainability. To clean the side brushes, proceed as follows:

1. Go to the right-hand side of the machine.
2. Remove the knob (1) fixing the side brush to the gear motor by rotating the right brush clockwise and the left brush anti-clockwise (**Fig. 1**).
3. Remove the washer (2) holding the side brush in place (**Fig. 1**).
4. Remove the brush from its support (**Fig. 2**).



5. Clean the brush under a stream of running water to remove any impurities from its bristles.

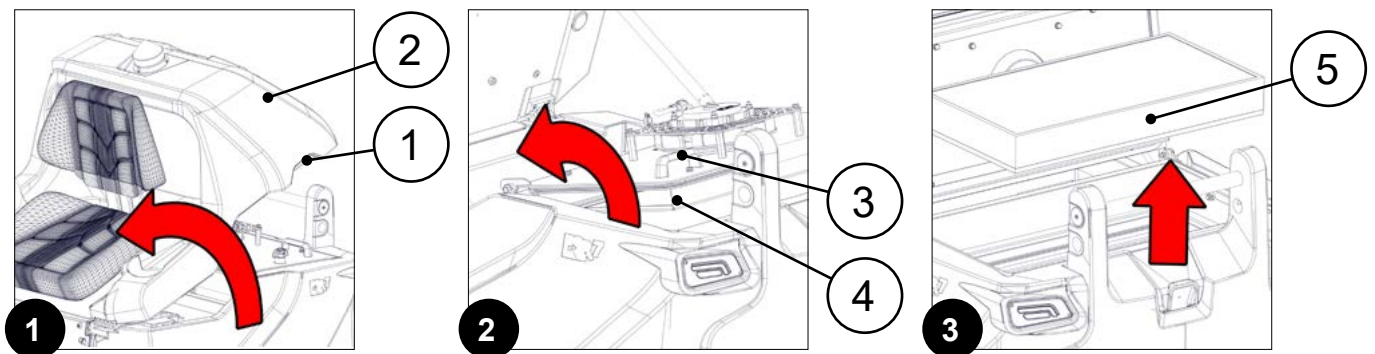
**i NB:** check the wear of the bristles and replace the brush if they are excessively worn. See [“ASSEMBLING THE SIDE BRUSHES” on page 81.](#)

6. After cleaning, repeat the operations in reverse order to reassemble all the parts.
7. Once this brush has been fitted, move on to the left-hand one (if used).

## CLEANING THE PANEL FILTER

A thoroughly clean panel filter will ensure better machine vacuum system results, thereby reducing costs and increasing environmental sustainability. To clean the panel filter, proceed as follows:

1. Go to the side of the machine.
2. Grip the handle (1) and turn the upper body (2) to its maintenance position (**Fig. 1**).
3. Stand at the back of the machine.
4. Grip the handles (3) and turn the vacuum fan support plate (4) to its maintenance position (**Fig. 2**).
5. Take the panel filter (5) out of the machine (**Fig. 3**).



6. Clean the panel filter, carefully shaking it on a clean, flat surface. If necessary, clean with compressed air ( $\leq 7\text{atm}$ ), pointed in the opposite direction to the vacuum flow.
7. Repeat the operations in reverse order to refit the panel filter in the machine.

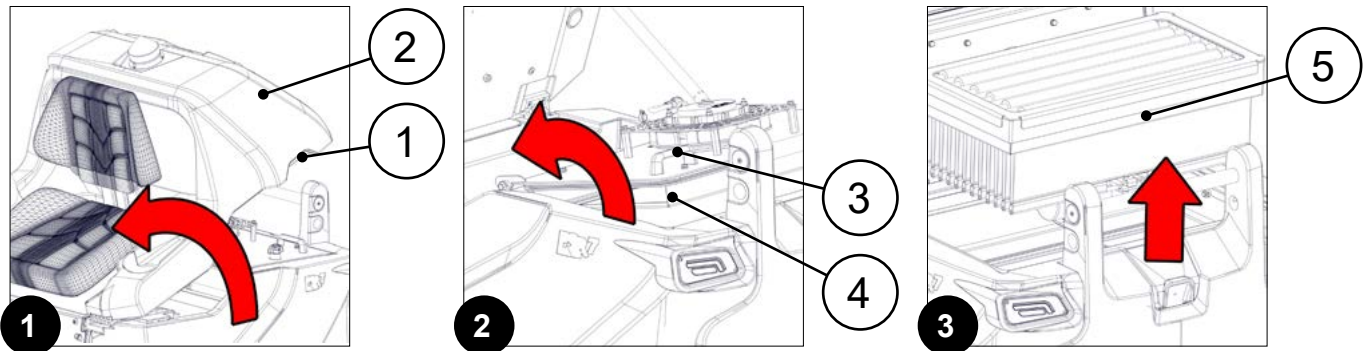
**i** **NB:** pay attention to the working direction of the panel filter when inserting it in the vacuum compartment on the machine: the gasket in the filter must be in contact with the machine frame.

## CLEANING THE POCKET FILTER (OPTIONAL)

A thoroughly clean pocket filter will ensure better machine vacuum system results, thereby reducing costs and increasing environmental sustainability. To clean the pocket filter, proceed as follows:

1. Go to the side of the machine.
2. Grip the handle (1) and turn the upper body (2) to its maintenance position (**Fig. 1**).
3. Stand at the back of the machine.
4. Grip the handles (3) and turn the vacuum fan support plate (4) to its maintenance position (**Fig. 2**).
5. Take the pocket filter (5) out of the machine (**Fig. 3**).

**!** **ATTENTION:** remember to disconnect the filter shaker motor power supply connector before removing the filter from the machine.



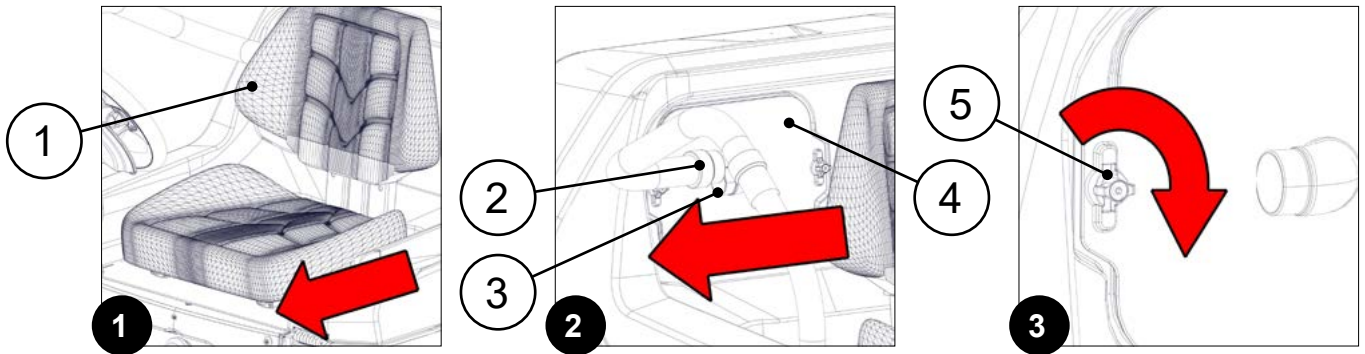
6. Clean the pocket filter, using a vacuum cleaner on the filtering surface (the air flow must be in the opposite direction to the vacuum flow).
7. Repeat the operations in reverse order to refit the pocket filter in the machine.

**i** **NB:** remember to reconnect the filter shaker motor power supply connector before closing the vacuum fan support plate (4).

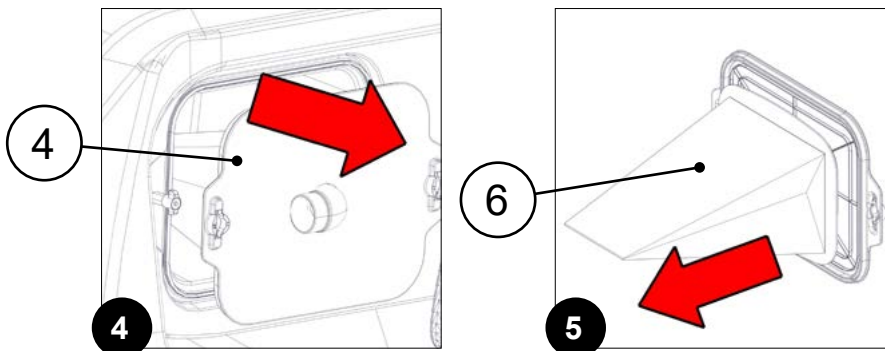
## CLEANING THE VACUUM WAND FILTER BAG (OPTIONAL)

A thoroughly clean filter bag will ensure better results from the vacuum system of the integrated vacuum cleaner kit, thereby reducing costs and increasing environmental sustainability. To clean the filter bag, proceed as follows:

1. Go to the left-hand side of the machine.
2. Shift the driving seat forwards (1) (**Fig. 1**) after activating the adjustment lever in the lower left-hand part of the seat.
3. Go to the right-hand side of the machine.
4. Remove the vacuum tube (2) from the vacuum nozzle (3) on the filter bag compartment cover (4) (**Fig. 2**).
5. Rotate the knobs (5) on the filter bag compartment cover (4) to the maintenance position (**Fig. 3**).



6. Remove the filter bag compartment cover (4) (Fig. 4).
7. Remove the filter bag (6) from its cardboard filter support, taking care not to damage the support (Fig. 5).



8. Empty the filter bag.



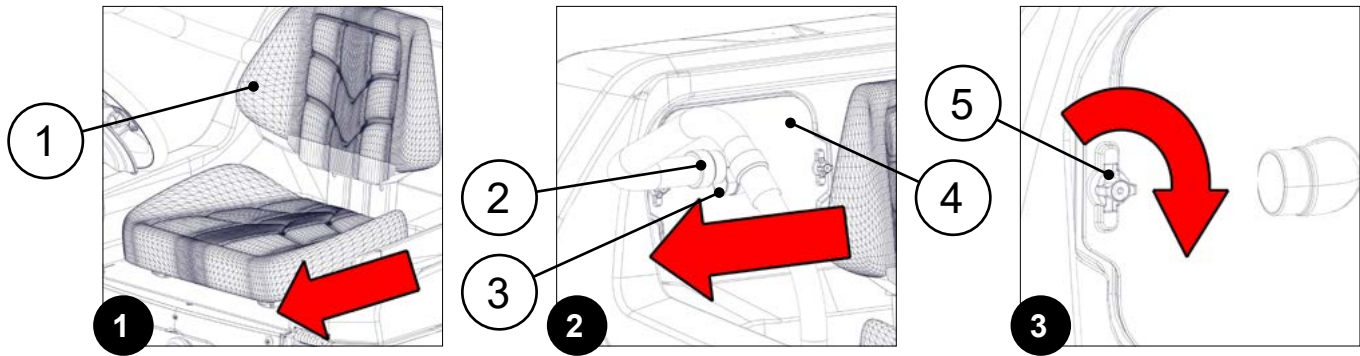
**NB:** the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

9. Clean the inside of the filter bag with a jet of compressed air ( $\leq 7\text{atm}$ ) pointed in the opposite direction to the vacuum flow.
10. Repeat the operations in reverse order to refit the filter bag in the machine.

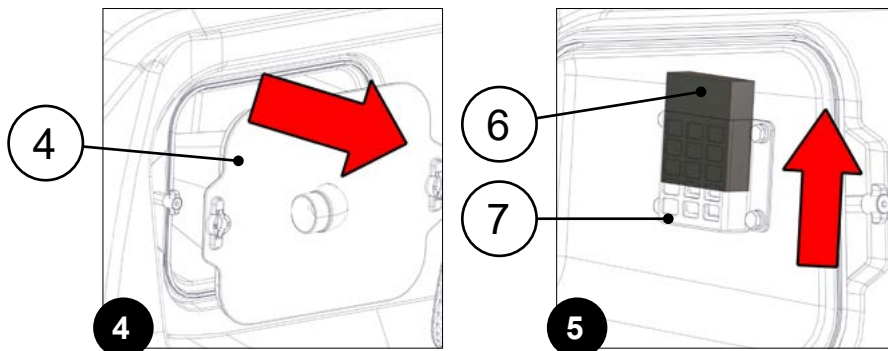
## CLEANING THE VACUUM WAND INLET AIR FILTER (OPTIONAL)

A thoroughly clean intake air filter will ensure better results from the vacuum system of the integrated vacuum cleaner kit, thereby reducing costs and increasing environmental sustainability. To clean the intake air filter, proceed as follows:

1. Go to the left-hand side of the machine.
2. Shift the driving seat forwards (1) (Fig. 1) after activating the adjustment lever in the lower left-hand part of the seat.
3. Go to the right-hand side of the machine.
4. Remove the vacuum tube (2) from the vacuum nozzle (3) on the filter bag compartment cover (4) (Fig. 2).
5. Rotate the knobs (5) on the filter bag compartment cover (4) to the maintenance position (Fig. 3).



6. Remove the filter bag compartment cover (4) (Fig. 4).
7. Remove the intake air filter (6) from its support (7) in the machine (Fig. 5).



8. Clean the filter with a jet of compressed air ( $\leq 7\text{atm}$ ) pointed in the opposite direction to the vacuum flow.
9. Repeat the operations in reverse order to refit the panel filter in the machine.

## EXTRAORDINARY MAINTENANCE WORK

Before carrying out any extraordinary maintenance operations, proceed as follows:

1. Take the machine to the maintenance area.

**WARNING:** the place designated for this operation must comply with current regulations concerning safety at work and current environmental protection regulations.

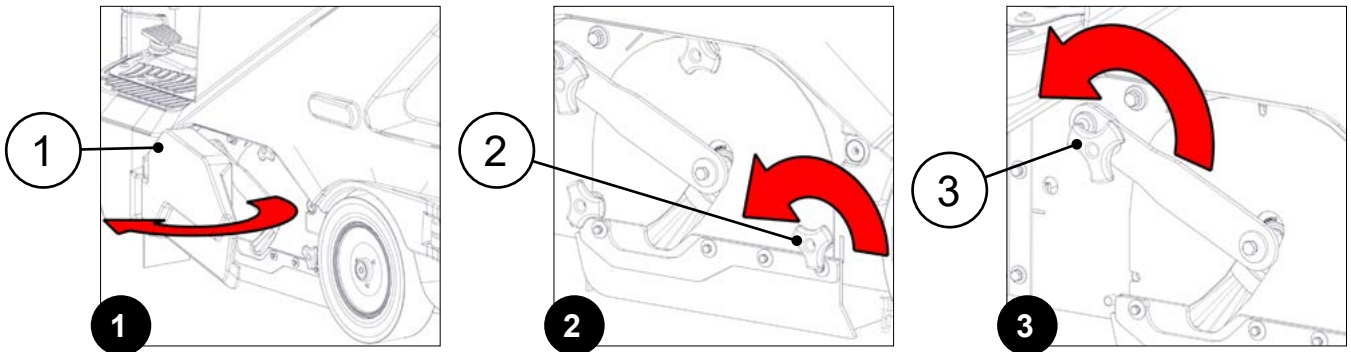
2. Make sure the machine is in a safe condition. See "[MACHINE SAFETY](#)" on page 30).

**CAUTION:** it is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

## REPLACING THE CENTRAL BRUSH

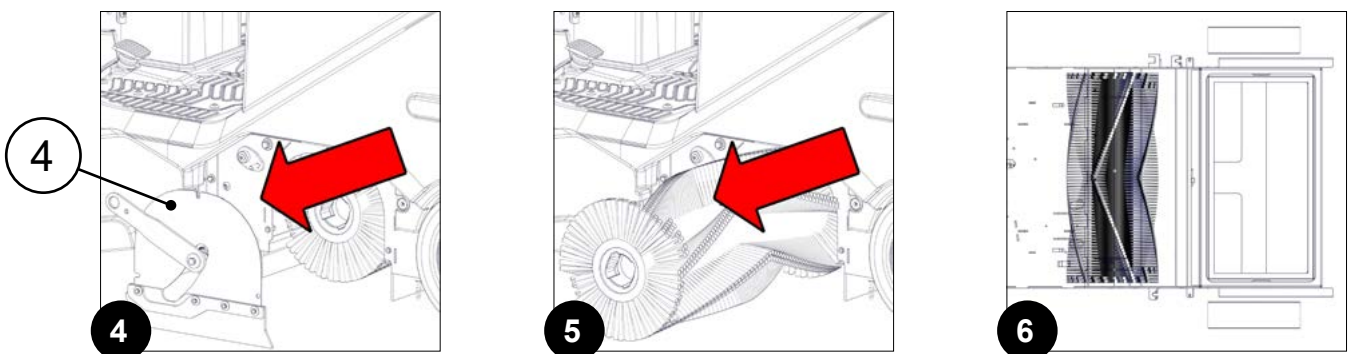
The good condition of the central brush will ensure a cleaner floor, thereby reducing costs and increasing environmental sustainability. To replace the central brush, proceed as follows:

1. Open the left-hand inspection door (1) (Fig. 1).
2. Loosen the knobs (2) of the central brush inspection carter (Fig. 2).
3. Loosen the knob (3) of the central brush lifting arm (Fig. 3).

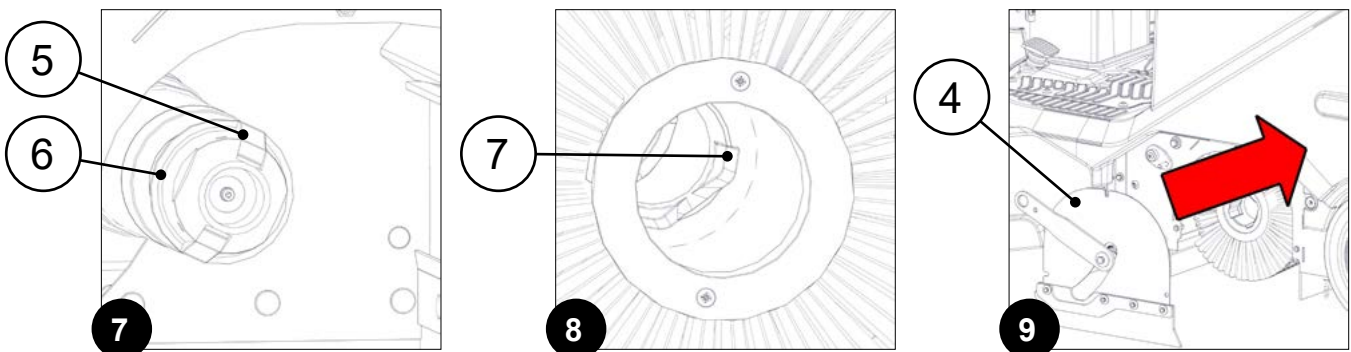


4. Remove the central brush inspection carter (4) (Fig. 4).
5. Take the brush out of the tunnel in the machine frame (Fig. 5).
6. Replace the worn brush with a new one.

**i NB:** when the brush is mounted correctly, the cusps on the brush form an arrow  $\wedge$  when seen from above in the forward movement direction (Fig. 6).

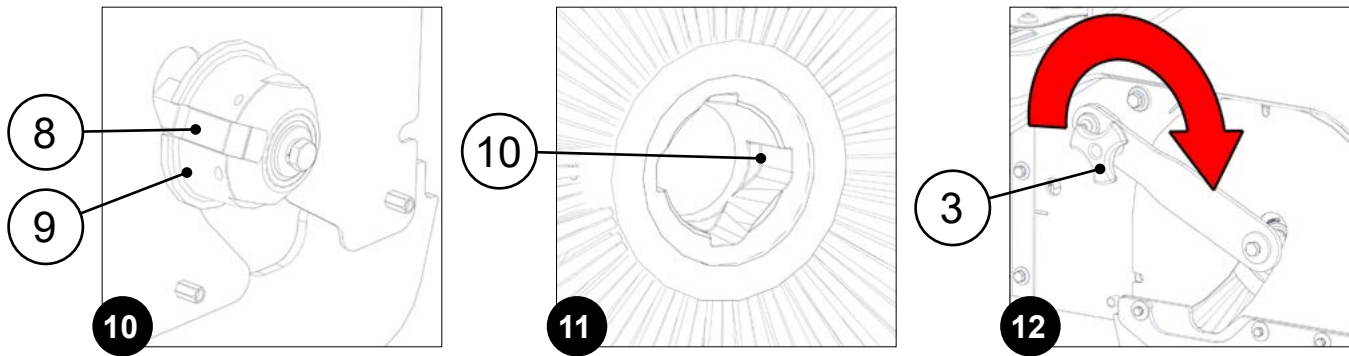


7. Rotate the brush until the fastening hooks (5) in the driving towing hook (6) (Fig. 7) correctly enter the slots (7) in the brush (Fig. 8).
8. Insert the central brush inspection carter (4) (Fig. 9).



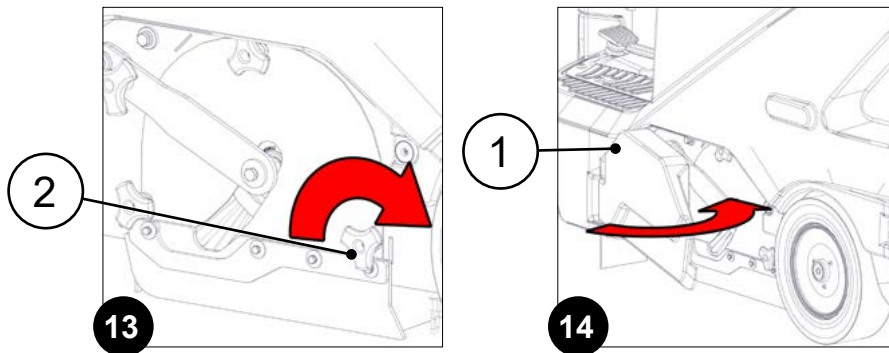
**⚠ WARNING:** make sure the fastening hooks (8) in the idle towing hook (9) (Fig. 10) correctly enter the slots (10) in the brush (Fig. 11).

9. Tighten the knob (3) of the central brush lifting arm (**Fig. 12**).



10. Tighten the knobs (2) of the central brush inspection carter (**Fig. 13**).

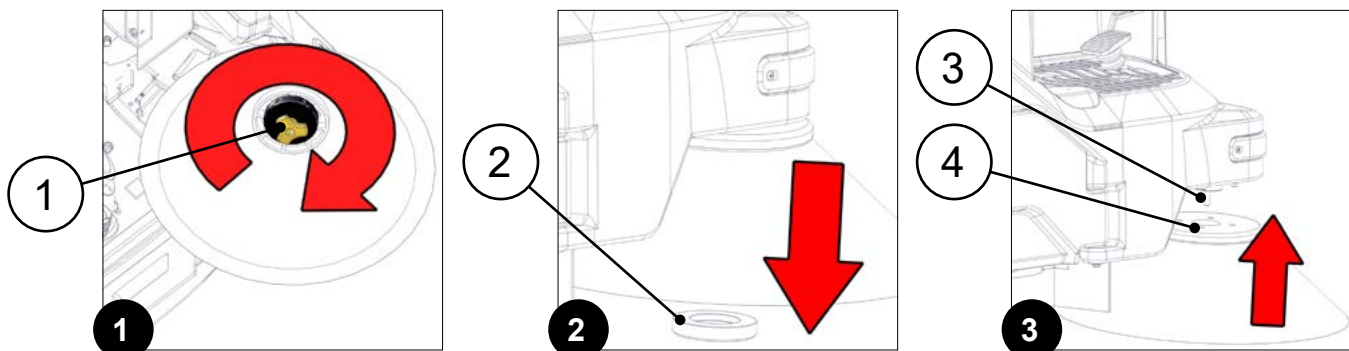
11. Close the left-hand inspection door (1) (**Fig. 14**).



## ASSEMBLING THE SIDE BRUSHES

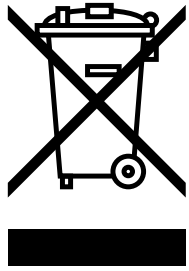
The good condition of the side brush will ensure a cleaner floor, thereby reducing costs and increasing environmental sustainability. To replace the side brush, proceed as follows:

1. Go to the right-hand side of the machine.
2. Remove the knob (1) fixing the side brush to the gear motor by rotating the right brush clockwise and the left brush anti-clockwise (**Fig. 1**).
3. Remove the washer (2) holding the side brush in place (**Fig. 2**).
4. Replace the worn brush with a new one.
5. Insert the side brush, making sure to correctly position the pins (3) on the brush support in the holes (4) on the brush (**Fig. 3**).



6. Fix the brush to the flange using the knob (1), remembering to put the washer (2) in between the knob and the brush.
7. Once this brush has been fitted, move on to the left-hand one (if used).

## DISPOSAL



Fimap is committed to creating its products by respecting the environment, investing in the development of sustainable solutions and technologies, seeking materials that can easily be recycled, and ensuring that the entire production process has a low environmental impact.

At the end of the machine's life cycle, the Fimap provides the **RECYCLING MANUAL** (to be downloaded from the link <https://www.fimap.com/it/fimap/ambiente/33/riciclabilita.html>) to supply some simple information on the methods for disposing of the materials that make up your scrubbing machine.

Before proceeding with disposal, it is essential to contact your nearest authorised collection centres directly, in accordance with the legislation in force in the country where the machine is used.

## CHOOSING AND USING BRUSHES

All the brushes are comprised of a body to which the various tufts of bristles are fixed. The brush bodies are generally made of plastic, as this is a material that ensures higher levels of reliability, in that it does not become damaged when wet.

**i NB:** when the bristle starts to be consumed, it comes closer to the brush and increases its rigidity, losing its flexibility characteristics that allows it to collect and remove dirt. For this reason it is important to replace them at the right moment.

The type of brush for sweeping machines can be chosen according to the material the bristles are made of. The most common bristle materials are:

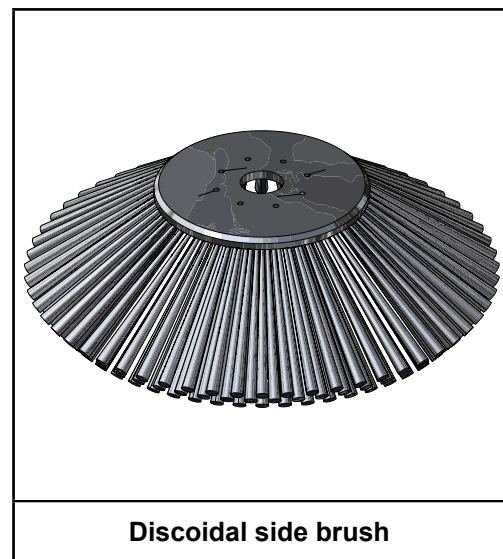
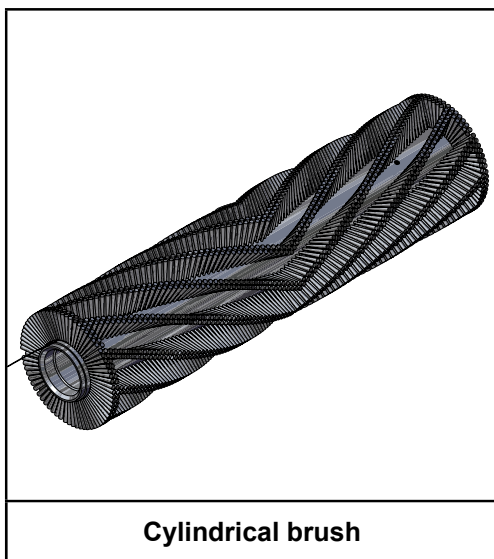
POLYPROPYLENE (PPL)	NYLON (PA)	TYNEX
Synthetic polymer	Synthetic polymer	Very durable abrasive material
Bristles with varying level of abrasion and thickness (0.3÷1.5 mm)	Can be used as an alternative to PPL	Can be used for deep cleaning on industrial surfaces
Can be used on any type of flooring		
Can be used for routine or deep cleaning		

UNION MIX	STEEL
Compound based on natural products	Suitable for industrial floors with stubborn dirt
Can be used for polishing and scrubbing activities	Alternative to Tynex
Resistant to very high temperatures	
Subject to rapid wear, shorter life than the PPL version	
Must be used with non-aggressive detergents	
Suitable for flooring types such as marble, granite, porphyry cobbles, terracotta	
Not suitable for cleaning heavy soiling	

Legend:  $\varnothing_E$ = external bristle diameter;  $\varnothing_F$ = external tank diameter (brush body);  $L_E$ = maximum brush width (bristle reference);  $L_F$ = maximum brush width (tank reference);

#### TYPE OF CYLINDRICAL BRUSH

CODE	QTY	$\varnothing$ EXTERNAL	TYPE OF BRISTLE	$\varnothing$ BRISTLES	NOTES
456783	1	300	PPL	0.7 WAVY 1.1 KNURLED	CYLINDRICAL BRUSH $\varnothing_E$ 300mm $\varnothing_F$ 135mm $L_E$ 680mm $L_F$ 685mm (COLOUR: WHITE / BLACK)
456984	1	300	PPL + STEEL	0.7 WAVY 0.5	CYLINDRICAL BRUSH $\varnothing_E$ 300mm $\varnothing_F$ 135mm $L_E$ 680mm $L_F$ 685mm (COLOUR: WHITE + STEEL FILAMENTS)
456985	1	300	PPL	0.3 WAVY 0.7 KNURLED	CYLINDRICAL BRUSH $\varnothing_E$ 300mm $\varnothing_F$ 135mm $L_E$ 680mm $L_F$ 685mm (COLOUR: LIGHT BLUE / WHITE)
457570	1	300	TAMPICO		CYLINDRICAL BRUSH $\varnothing_E$ 300mm $\varnothing_F$ 135mm $L_E$ 680mm $L_F$ 685mm



#### TYPE OF DISCOIDAL SIDE BRUSH

CODE	QTY	$\varnothing$ EXTERNAL	TYPE OF BRISTLE	$\varnothing$ BRISTLES	NOTES
429205	1+1	460	PPL + STEEL	1.1 + 0.7	DISCOIDAL BRUSH $\varnothing_E$ 460mm $\varnothing_F$ 180mm (COLOUR: BLACK + STEEL FILAMENTS)
429206	1+1	460	PPL	1	DISCOIDAL BRUSH $\varnothing_E$ 460mm $\varnothing_F$ 180mm (COLOUR: BLACK)
457571	1+1	460	TAMPICO + BRONZE		DISCOIDAL BRUSH $\varnothing_E$ 460mm $\varnothing_F$ 180mm
457641	1+1	460	PPL	0.7	DISCOIDAL BRUSH $\varnothing_E$ 460mm $\varnothing_F$ 180mm (COLOUR: BLACK)

## TROUBLESHOOTING

This chapter lists the most common problems linked with the use of the machine. If you are unable to resolve the problems with the information given here, please contact your FIMAP service centre of reference or the one closest to you

### THE MACHINE DOES NOT START

POSSIBLE CAUSE	SOLUTION
The main switch is set to "0"	Make sure the main switch is on "I" (if necessary, make a quarter turn clockwise with the key)
Check there are no alarm messages on the control display at the time of switch-on	Contact your FIMAP service centre of reference or the one closest to you
Make sure the battery box is correctly connected, and that the battery box connector is connected to the electrical system connector	Make sure the batteries are properly connected to one another. Contact your FIMAP service centre of reference or the one closest to you
	Make sure the batteries are properly connected to the machine's electrical system. Contact your FIMAP service centre of reference or the one closest to you
Check the charge level of the battery box	If the battery box charge level is critical, run a complete charging cycle. See <a href="#">"RECHARGING THE BATTERIES" on page 33</a>

### THE BATTERY BOX IS NOT COMPLETELY CHARGED

POSSIBLE CAUSE	SOLUTION
The battery charger cable connector is not properly inserted in the battery box connector	Connect the battery charger cable connector to the battery box connector again
The plug on the battery charger power cable is not correctly inserted in the mains socket	Check the plug on the battery charger power cable is connected to the mains socket
The characteristics of the mains supply do not correspond to those required by the battery charger	Check the characteristics indicated on the battery charger plate are the same as those of the mains supply
The battery charger LEDs flash repeatedly	Referring to the battery charger use and maintenance manual, check the meaning of the flashing signals that the battery charger emits during the battery recharge phase
The electrolyte level in the battery box cells is low	To top it up, refer to the battery box user and maintenance manual supplied along with the battery box itself (or obtained by contacting the battery box supplier)

### THE MACHINE HAS A VERY LOW WORK AUTONOMY

POSSIBLE CAUSE	SOLUTION
Check the battery box charge level (check the symbol on the control display)	If the battery charge level is critical, run a complete charging cycle. See <a href="#">"RECHARGING THE BATTERIES" on page 33</a>

## THE MACHINE DOES NOT MOVE

POSSIBLE CAUSE	SOLUTION
The machine does not start	See <a href="#">“THE MACHINE DOES NOT START” on page 84</a>
An error appears on the control display	See <a href="#">“ALARM SCREEN” on page 62</a>
There is a drive pedal fault	Contact your FIMAP service centre of reference or the one closest to you

## THE MACHINE DOES NOT CLEAN CORRECTLY

POSSIBLE CAUSE	SOLUTION
The machine does not start	See <a href="#">“THE MACHINE DOES NOT START” on page 84</a>
The central brush and/or side brushes are not correctly fitted on the machine	<p>Check the central brush is correctly fitted in the machine. If necessary, see <a href="#">“ASSEMBLING THE CENTRAL BRUSH” on page 35</a></p> <p>Check the side brushes are correctly fitted in the machine. If necessary, see <a href="#">“ASSEMBLING THE SIDE BRUSHES” on page 81</a></p>
The type of brush being used is not suitable for the dirt to be removed	Check that the brushes installed on the machine are adequate for the work to be carried out. Contact your FIMAP service centre of reference or the one closest to you
The bristles of the central brush and/or the side brushes are excessively worn	<p>Check the condition of the central brush, replacing it if necessary. See <a href="#">“REPLACING THE CENTRAL BRUSH” on page 80</a></p> <p>Check the condition of the side brushes, replacing them if necessary. See <a href="#">“ASSEMBLING THE SIDE BRUSHES” on page 81</a></p>
The debris hopper is too full	If the debris hopper is too full, empty it. See <a href="#">“EMPTYING THE DEBRIS HOPPER” on page 52</a>

## THE VACUUM SYSTEM DOES NOT VACUUM CORRECTLY

POSSIBLE CAUSE	SOLUTION
The vacuum system is obstructed	Clean the panel filter. See <a href="#">“CLEANING THE PANEL FILTER” on page 76</a>
	Clean the pocket filter. See <a href="#">“CLEANING THE POCKET FILTER (OPTIONAL)” on page 77</a>

## THE MACHINE DOES NOT VACUUM CORRECTLY

POSSIBLE CAUSE	SOLUTION
The debris hopper is full	Empty the debris hopper. See <a href="#">“EMPTYING THE DEBRIS HOPPER” on page 52</a>
The vacuum device is obstructed	See <a href="#">“THE VACUUM SYSTEM DOES NOT VACUUM CORRECTLY” on page 85</a>

## EXCESSIVE DUST PRODUCTION

POSSIBLE CAUSE	SOLUTION
The vacuum system is disabled	Check the hopper vacuum system is not switched off; if it is, switch it on via the button on the control display. See <a href="#">“ADJUSTING THE VACUUM MOTOR PERFORMANCE LEVEL” on page 56</a>
The vacuum filter is obstructed	Clean the panel filter. See <a href="#">“CLEANING THE PANEL FILTER” on page 76</a>
	Clean the pocket filter. See <a href="#">“CLEANING THE POCKET FILTER (OPTIONAL)” on page 77</a>
The debris hopper is too full	If the debris hopper is too full, empty it. See <a href="#">“EMPTYING THE DEBRIS HOPPER” on page 52</a>
Dust seal flaps no longer in good condition	Contact your FIMAP service centre of reference or the one closest to you.

## EC DECLARATION OF CONFORMITY



The undersigned manufacturer:

**FIMAP S.p.A.**  
Via Invalidi del Lavoro, 1  
37059 Santa Maria di Zevio (VR)

declares under its sole responsibility that the products

### SWEEPING MACHINES

mod. FSR7 PLUS

comply with the requirements of the following directives:

- 2006/42/EC: Machinery Directive.
- 2014/30/EU: Electromagnetic Compatibility Directive.

MODEL	LwA [dB(A)]	LwA guaranteed [dB(A)]
FSR7 PLUS	85.8	85.8

The person authorised to compile the technical file:

Mr. Giancarlo Ruffo  
Via Invalidi del Lavoro, 1  
37059 Santa Maria di Zevio (VR) - ITALY

Santa Maria di Zevio (VR), 28/03/2022

FIMAP S.p.A.  
Legal representative  
Giancarlo Ruffo

The undersigned manufacturer:

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37059 Santa Maria di Zevio (VR)

declares under its sole responsibility that the products

**SWEEPING MACHINES**

mod. FSR7 PLUS CB

comply with the requirements of the following directives:

- 2006/42/EC: Machinery Directive.
- 2014/35/EU: Low Voltage Directive.
- 2014/30/EU: Electromagnetic Compatibility Directive.

<b>MODEL</b>	<b>LwA [dB(A)]</b>	<b>LwA guaranteed [dB(A)]</b>
FSR7 PLUS CB	85.8	85.8

The person authorised to compile the technical file:

Mr. Giancarlo Ruffo  
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Santa Maria di Zevio (VR), 28/03/2022

FIMAP S.p.A.  
Legal representative  
Giancarlo Ruffo

# UKCA DECLARATION OF CONFORMITY



The undersigned manufacturer:

**FIMAP S.p.A.**  
Via Invalidi del Lavoro, 1  
37059 Santa Maria di Zevio (VR)

declares under its sole responsibility that the products

## SWEEPING MACHINES

mod. FSR7 PLUS

comply with the requirements of the following directives:

- S.I. 2008/1597 Supply of Machinery (Safety) Regulations 2008 (as amended).
- S.I. 2016:1091 Electromagnetic Compatibility Regulations 2016 (as amended).

MODEL	LwA [dB(A)]	LwA guaranteed [dB(A)]
FSR7 PLUS	85.8	85.8

The person authorised to compile the technical file:

Mr. Giancarlo Ruffo  
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Santa Maria di Zevio (VR), 28/03/2022

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- S.I. 2016:1101 Electrical Equipment (Safety) Regulations 2016 (as amended).
- S.I. 2016:1091 Electromagnetic Compatibility Regulations 2016 (as amended).

<b>MODEL</b>	<b>LwA [dB(A)]</b>	<b>LwA guaranteed [dB(A)]</b>
FSR7 PLUS CB	85.8	85.8

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