

USE AND MAINTENANCE MANUAL

 **FIMAP**[®]



Mg 75 - 85 - 100

ED. 01-2010

EN

ORIGINAL
INSTRUCTIONS
Doc. 10021824
Ver. AA



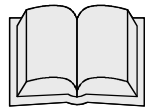
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Symbols used in the manual



Open book symbol with an "i"
Indicates that this document is an instruction manual



Open book symbol
Used to tell the operator to read the manual before using the machine



Warning symbol
Carefully read the sections marked with this symbol, for the safety of the operator and the machine



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On consignment of the machine

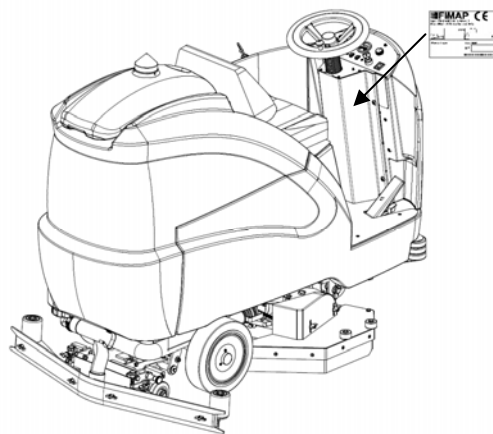
Serial number plate

When the machine is consigned to the customer, an immediate check must be performed to ensure all the material mentioned in the shipping documents has been received, and also to check the machine has not suffered damage during transportation. If this is the case, the carrier must ascertain the extent of the damage at once, informing our customer service office. It is only by prompt action of this type that the missing material can be obtained, and compensation for damage successfully claimed.

Introductory comment

This is a scrubbing machine that is able to clean a wide variety of types of flooring and types of dirt by using the mechanical action of two disc or cylindrical brushes, depending on the model, and the chemical action of a water-detergent solution. As it advances, it also collects the dirt removed and the detergent solution not absorbed by the floor.

The machine must be used only for this purpose. Even the best machines will only work well if used correctly and kept in good working order. We therefore suggest you read this instruction booklet carefully and read it again whenever difficulties arise while using the machine. If necessary, remember that our assistance service (organised in collaboration with our dealers) is always available for advice or direct intervention.



SCRUBBING MACHINE MG 75B – 85B – 100B – 85BS

TECHNICAL DESCRIPTION	UM	MG - 75	MG - 85	MG - 100	MG – 85BS
Working width	mm	750	850	1000	850
Squeegee width	mm	1003	1103	1266	1103
Work capacity, up to	m ² /h	4500	5100	6000	5100
Cylindrical/disc brushes (N° 2)	Ø mm	390	440	510	150
Brush rotations	rpm	185	185	160	700
Brush motor	W	1500	1500	1500	2x650
Pressure on the brushes	kg	60-80-100	60-80-100	60-80-100	60
Traction motor	V	36	36	36	36
Traction motor	W	900	900	900	900
Traction wheel	Ø mm	260	260	260	260
Forward speed	km/h	0÷8	0÷8	0÷8	0÷8
Maximum gradient with full load	%	15	15	15	15
Suction motor	W	670	670	670	670
Suction vacuum	mbar	1400	1400	1400	1400
Rear elastic wheels	Ø mm	303x90	303x90	303x90	303x90
Solution tank	l	170	170	170	170
Recovery tank	l	175	175	175	175
Detergent solution tank	l	18	18	18	18
Steering diameter	mm	2000	2000	2000	2000
Machine length	mm	1750	1750	1750	1750
Machine height	mm	1402	1402	1402	1402
Machine width (without squeegee) Tank	mm	805	903	1053	940
Battery compartment (lxwxh)	mm	375x840x365			
Rated battery voltage	V	36	36	36	36
Battery capacity (C5)	Ah	240	240	240	240
Battery weight	kg	315	315	315	315
Machine weight (empty and without batteries)	kg	385.5	388.5	393.5	380
Noise level (in compliance with IEC 704/1)	dB (A)				
Hand vibration level	m/s ²				
Body vibration level	m/s ²				

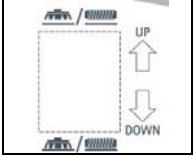


SCRUBBING MACHINE MG 75B – 85B – 100B – 85BS - BASIC MODEL

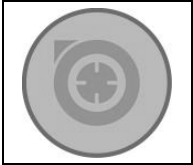
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Brush rotations	rpm	185	185	160	700
Brush motor	W	900	900	900	2x650
Pressure on the brushes	kg	60	60	60	60
Traction motor	V	36	36	36	36
Traction motor	W	900	900	900	900
Traction wheel	Ø mm	260	260	260	260
Forward speed	km/h	0÷8	0÷8	0÷8	0÷8
Maximum gradient with full load	%	15	15	15	15
Suction motor	W	670	670	670	670
Suction vacuum	mbar	1400	1400	1400	1400
Rear elastic wheels	Ø mm	303x90	303x90	303x90	303x90
Solution tank	l	170	170	170	170
Recovery tank	l	175	175	175	175
Steering diameter	mm	2000	2000	2000	2000
Machine length	mm	1750	1750	1750	1750
Machine height	mm	1320	1320	1320	1320
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Battery compartment (lxwxh)	mm	375x840x365			
Rated battery voltage	V	36	36	36	36
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Battery weight	kg	315	315	315	315
Machine weight (empty and without batteries)	kg	385.5	388.5	393.5	380
Noise level (in compliance with IEC 704/1)	dB (A)				
Hand vibration level	m/s ²				
Body vibration level	m/s ²				



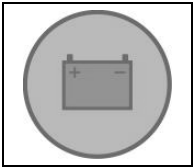
SYMBOLS USED ON THE MACHINE



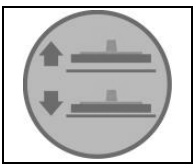
Symbol denoting base rise/fall
Used to indicate the base rise/fall switch



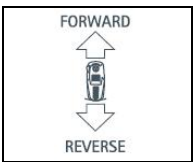
Symbol denoting suction motor
Used to indicate the suction motor off switch



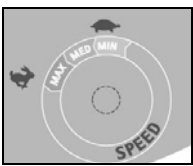
Symbol denoting battery electric charging



Symbol denoting squeegee rise/fall
Used to indicate the squeegee manual/automatic operation switch



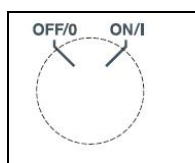
Label representing the speed selector for machine forwards or backwards movement



Label representing the three-speed movement selector



SYMBOLS USED ON THE MACHINE

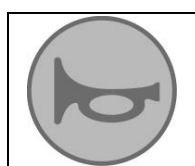


Main switch symbol (key switch)

Used on the instrument panel, to indicate the key switch for machine operation on (I) or off (O)

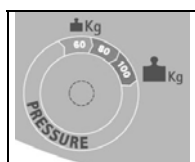


Symbol denoting the indicator light for incorrect operation of the traction



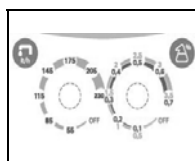
Symbol denoting acoustic alarm

Used to indicate the acoustic alarm button



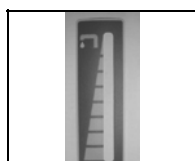
Symbol denoting pressure applied to the brushes

Used to indicate the switch to increase the pressure on the brushes



Symbol denoting regulation of water quantity (l/h) and detergent (%), FSS system

Used on the instrument panel, to indicate the knobs for adjusting the percentage level of detergent dissolved in the water, and the level of water distributed on the brushes



Symbol denoting regulation of water quantity for basic model

Used on the steering column to indicate the knobs for adjusting the quantity of water distributed on the brushes



SYMBOLS USED ON THE MACHINE



Label with instructions for using standard or concentrated detergents

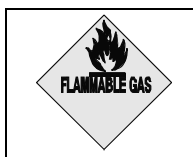
SYMBOLS USED IN THE MANUAL



Indicates a dangerous situation



Indicates danger of gas exhalation and leakage of corrosive liquids



Indicates the danger of fire
Do not go near with free flames



Indicates the disposal methods
Respect the regulations



GENERAL SAFETY REGULATIONS

The regulations below must be carefully followed in order to avoid harm to the operator and damage to the machine.

- Read the labels on the machine carefully. Do not cover them for any reason and replace them immediately if they become damaged
- The machine must be used exclusively by authorised, trained personnel
- During the working of the machine, pay attention to other people and especially to children
- The machine is not suitable for cleaning carpets.
- Do not mix different types of detergent as this may produce harmful gases
- Do not place any liquid containers on the machine
- The storage temperature must be between -25°C and +55°C; do not store outdoors in damp conditions
- Conditions of use: room temperature between 0°C and 40°C with relative humidity between 30 and 95%
- Do not use the machine in an explosive atmosphere
- Do not use the machine as a means of transport
- Do not use acid solutions that could damage the machine and/or harm people
- Avoid working with the brushes when the machine is standing still, so as not to damage the floor
- Do not vacuum inflammable liquids
- Do not use the device to collect dangerous powders
- In the event of a fire, use a powder extinguisher. Do not use water
- Do not knock against shelving or scaffolding, where there is a danger of falling objects
- Adapt the speed to the adhesion conditions
- Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- When the machine is in parking mode, remove the key and insert the parking brake
- The machine is designed to carry out the washing and drying operations simultaneously. Different operations should only be carried out in areas where the passage of unauthorised persons is prohibited. Signal the presence of damp floors with suitable signs
- If the machine does not work properly, check this is not caused by failure to carry out routine maintenance. Otherwise, request the intervention of the **FIMAP** technical assistance centre
- If you need to replace any components, request the ORIGINAL spare parts from a **FIMAP** dealer and/or Authorised Retailer
- Only use original **FIMAP** brushes indicated in the paragraph "CHOOSING AND USING THE BRUSHES"
- In the event of danger, activate the emergency lever (connector placed under the operator's seat) immediately
- Before carrying out any maintenance work, switch off the machine and disconnect the battery connector
- ATTENTION: Restore all electrical connections after any maintenance operation
- Do not remove any protection devices which require the use of tools in order to be removed
- Do not wash the machine with direct water jets or with pressurised water, nor with corrosive substances
- After every 200 hours of operation, have the machine checked by a **FIMAP** assistance centre
- To prevent the formation of scale in the solution tank filter, do not fill the tank with detergent solution many hours before using the machine.
- Before using the machine, check that all the hatches and covers are positioned as shown in this Use and Maintenance Manual.
- Before you lift the recovery tank make sure it is empty
- When disposing of consumption materials, observe the laws and regulations in force
- The machine does not cause harmful vibrations
- When your **FIMAP** machine has reached the end of its long working life, dispose of the materials it contains (especially oils, batteries and electronic components) in an appropriate manner, and bearing in mind that the machine itself was constructed using 100% recyclable materials
- The batteries must be removed from the machine before its disposal
- The batteries must be disposed of in a safe manner, fully observing the laws and regulations in force
- The machine is not suitable for use by children or people with reduced physical, mental and sensorial capacities, or people lacking experience and knowledge, unless supervised and instructed in the use of the machine by a person responsible for their safety
- Children must be supervised to ensure they do not play with the device.



MACHINE PREPARATION

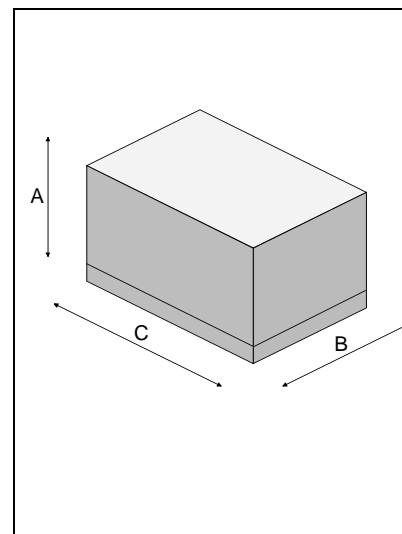
1. HANDLING THE PACKED MACHINE

The machine is contained in specific packaging with a pallet for the handling with fork trucks. The packages cannot be placed on top of each other.

The total weight is 400kg (without batteries)

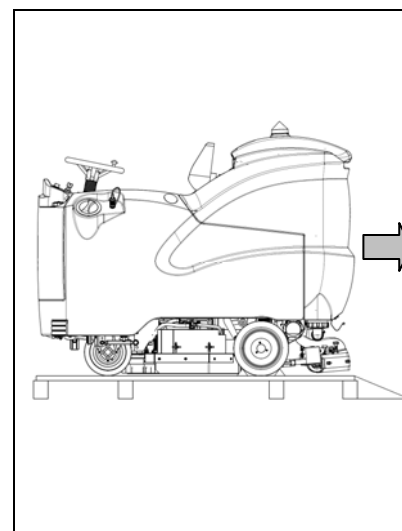
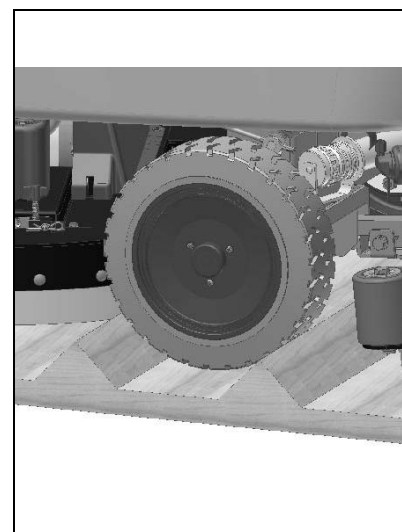
The Mg 75/85 and 100/85BS overall dimensions of the package are:

Mg 75/85	Mg 85BS/100
A: 1442mm	A : 1550mm
B: 924mm	B: 1114mm
C: 1774mm	C: 1794mm



2. HOW TO UNPACK THE MACHINE

1. Remove the outer packaging
2. The machine is fixed to the pallet with wedges which block the wheels
3. Remove the wedges
4. Use a chute to get the machine down from the pallet, pushing it backwards.
5. Keep the pallet for any future transport needs





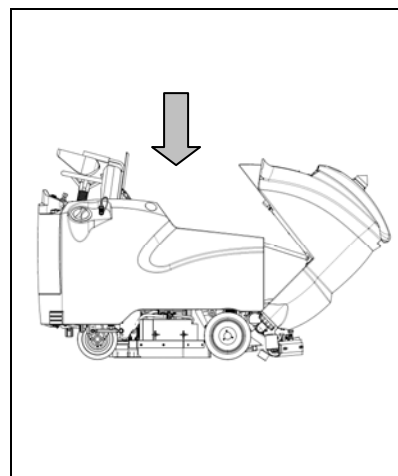
MACHINE PREPARATION

3. FITTING THE BATTERIES INTO THE MACHINE

The batteries must be housed in the special compartment beneath the recovery tank. They should be handled using lifting equipment that is suitable in terms of both weight and hook-up system. They must also satisfy the requirements of Standard CEI 21-5. The dimensions of the battery compartment are: 375 x 840 x H365 mm.



For battery maintenance and daily recharging, you must fully respect the indications provided by the manufacturer or retailer. All installation and maintenance operations must be carried out by specialised personnel



To insert the batteries you must:

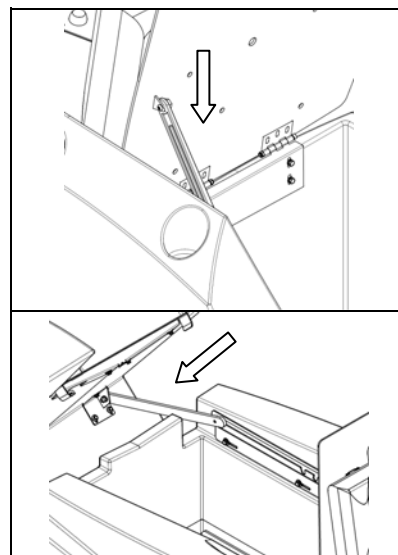
1. Lock the machine engaging the brake lever
2. make sure that the recovery tank is empty
3. lift the solution tank until it hooks to its safety clamp
4. lift the recovery tank until it hooks to its safety clamp
5. position the batteries



ATTENTION: You are advised to only lift and move the batteries with lifting and transportation means suitable for the specific weight and size

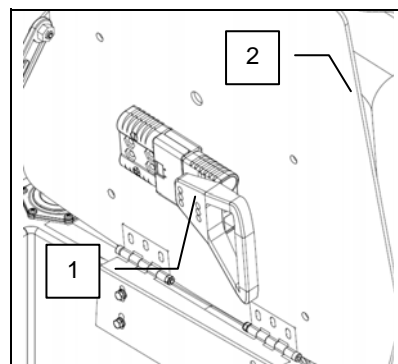


ATTENTION: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands



4. CONNECTING THE BATTERY CONNECTOR

The battery connector (1) must be connected to the machine connector that is placed under the operator's seat (2).





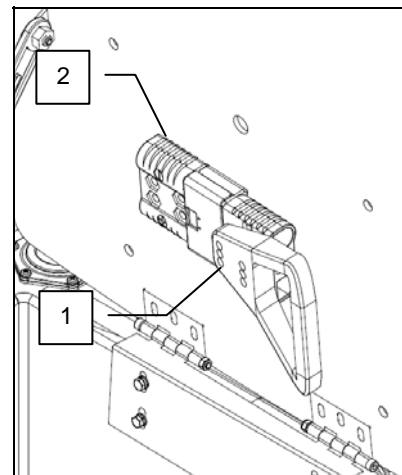
MACHINE PREPARATION

5. CONNECTING THE BATTERY CHARGER

The battery connector is placed under the operator's seat. The lower part (1), connected to the batteries, must be detached from machine connector (2) and hooked up to the battery charger connector for charging. The coupling connector is delivered inside the bag containing this instruction booklet, and must be be assembled on the cables of the battery charger as indicated in the instructions (see the battery charger manual).



ATTENTION! this process must be carried out by qualified personnel. The incorrect or imperfect connection of the cables to the connector can seriously harm people and damage objects



6. RECHARGING THE BATTERIES

In order not to cause permanent damage to the batteries it is essential to avoid their complete discharge: arrange the recharge within a few minutes of the switching on of the flashing "discharged batteries" signal.

NOTE: never leave the batteries completely discharged, even if the machine is not being used. After every 10 recharging operations, check the level of the electrolyte and, if necessary, top up with distilled water.



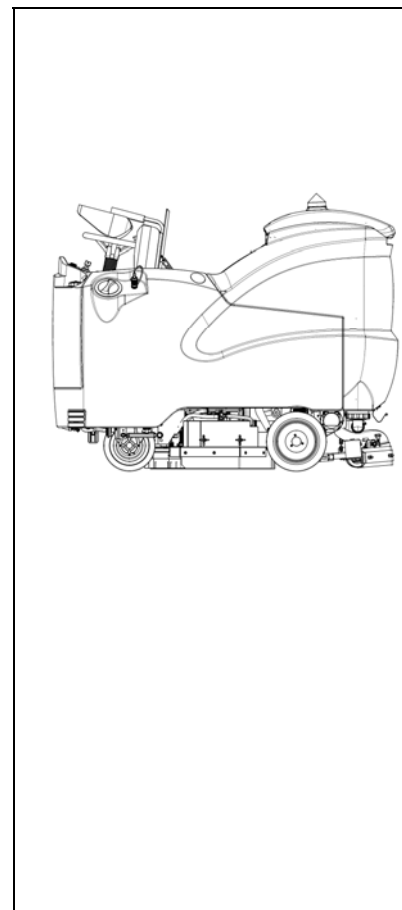
WARNING! While recharging, keep the seat raised and blocked with the special prop. Check the battery charger is suitable for the batteries installed, in terms of both capacity and type (lead/acid or GEL and equivalents). **Never charge a GEL battery with an unsuitable battery charger.** Follow the instructions given by the battery/battery charger manufacturer with the utmost attention.



Danger of fire: do not go near with naked flames.



Danger of gas exhalation and leakage of corrosive liquids





MACHINE PREPARATION

7. TYPE OF BATTERY

To power the machine it is necessary to use:

- liquidelectrolyte lead traction batteries;
- sealed traction batteries with gasrecombination or gel technology.

OTHER TYPES MUST NOT BE USED.

The batteries must meet the requisites laid out in standards CEI EN 60254-1:2005-12 (CEI 21-5) + CEI EN 60254-2:2008-06 (CEI 21-7).



The battery compartment consists of a battery compartment of 240 Ah C5

8. BATTERY MAINTENANCE AND DISPOSAL

For maintenance and recharging, respect the instructions provided by the battery manufacturer.

Particular attention must be paid when choosing the battery charger, if not supplied, since there are different kinds according to the type and capacity of the battery.

When the battery reaches the end of its working life, it must be disconnected by expert, trained personnel, then lifted (using the grips and suitable lifting devices) to remove it from the battery compartment. EXHAUSTED BATTERIES ARE CLASSIFIED AS DANGEROUS WASTE AND MUST BE CONSIGNED TO THE AUTHORISED BODIES FOR CORRECT DISPOSAL.

	ATTENTION: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands
	ATTENTION: You are advised to only lift and move the batteries with lifting and transportation means suitable for the specific weight and size



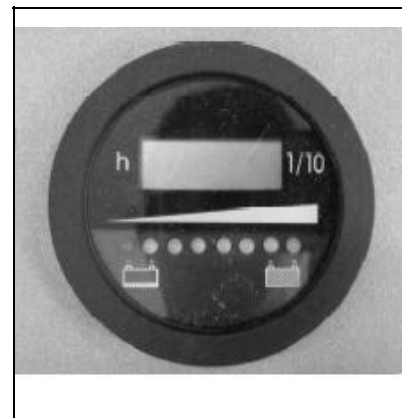
MACHINE PREPARATION

9. BATTERY CHARGE LEVEL INDICATOR

The battery indicator uses LEDs and has 8 positions (7 yellow - charged batteries, and 1 red - run down batteries).



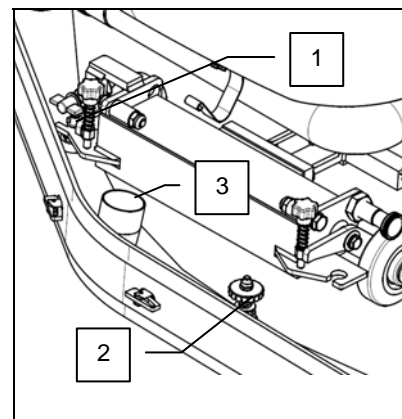
WARNING: a few seconds after the red indicator light comes on, the brush motor switches off automatically. With the remaining charge it is possible to complete the drying process before recharging.



10. ASSEMBLING THE SQUEEGEE

For packaging reasons, the squeegee is supplied disassembled from the machine, and must be assembled as shown in the figure. First threading left pin (1) of the squeegee into the left slot on the arm and then right pin (2) into the right slot, being careful to keep the spring and the washer above the arm's flat bar. This can be simplified by first loosening the handwheel on the pin. Then retighten the handwheel to block the squeegee in place.

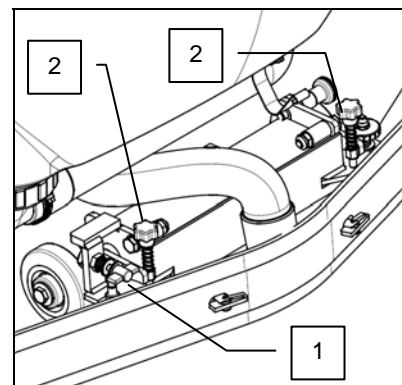
Insert the squeegee tube in the appropriate sleeve (3).



11. SQUEEGEE INCLINATION

During working operation, the rear rubber is slightly tilted backwards (by about 5mm) in a uniform way for its whole length.

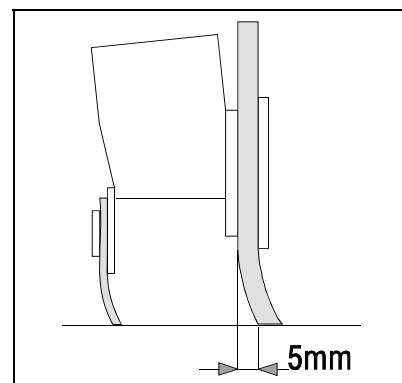
If it is necessary to increase the bend of the rubber in the central part, you must tilt the squeegee backwards, rotating the adjuster (1) anticlockwise. To increase the bend of the rubber at the sides of the squeegee, rotate the adjuster (1) clockwise.



12. ADJUSTING THE SQUEEGEE SUPPORT HEIGHT

The height of the squeegee must be adjusted on the basis of the state of wear and tear of the rubber. To do this, turn the knobs clockwise (tighten) to raise the squeegee, and anticlockwise (unscrew) to lower it (2).

Note: the right and left wheels must be adjusted to the same level, so the squeegee can work parallel to the floor.



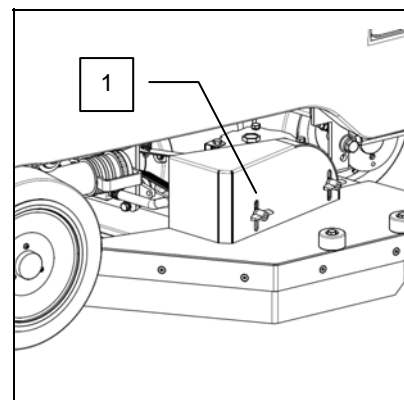


MACHINE PREPARATION

13. ADJUSTING THE HEIGHT OF THE WASHING BASE SPLASH GUARD RUBBER SUPPORT

During operation, the splash guard of the base must touch the floor lightly. Tighten or loosen adjustment knob (1) in order to vary the height of the support and consequently the height of the splash guard rubbers.

Carry out the operations described above for adjustment of both carter (RH and LH).

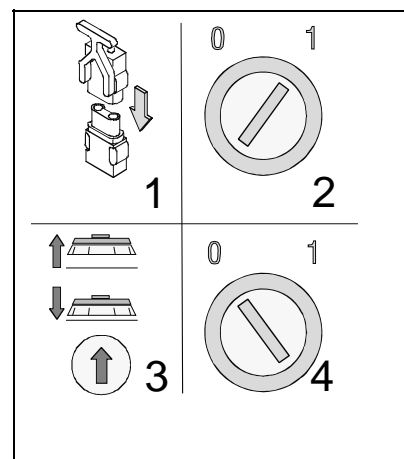


14. DISC BRUSH ASSEMBLY

1. Connect the battery connector
2. Turn the key to position "1"
3. Move the switch to lift the base
4. Turn the key to position "0" and remove it from the electrical board



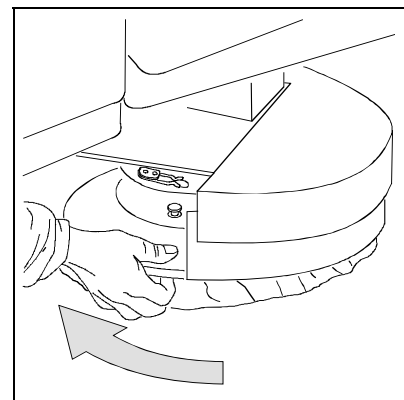
WARNING! During this operation, check there are no people or objects near the brush.



5. With the base up, insert the brushes in the plate housing beneath the base, turning them until the three pins enter the niches in the plate itself; turn until the pin is pushed towards the coupling spring and is locked into place. The picture shows the rotation direction to hook up the right-hand brush; for the left-hand one, rotate in the opposite direction.



ATTENTION: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands.



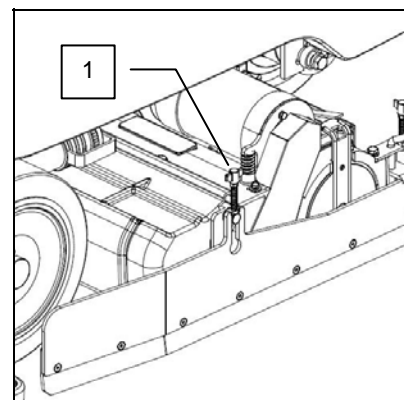


MACHINE PREPARATION

15. ADJUSTING THE HEIGHT OF THE WASHING BASE SPLASH GUARD RUBBER SUPPORT (BS)

During operation, the splash guard of the base must touch the floor lightly. Tighten or loosen adjustment knobs in order to vary the height of the support and consequently the height of the splash guard rubbers (1).

Carry out the operations described above for adjustment of both carters (RH and LH)

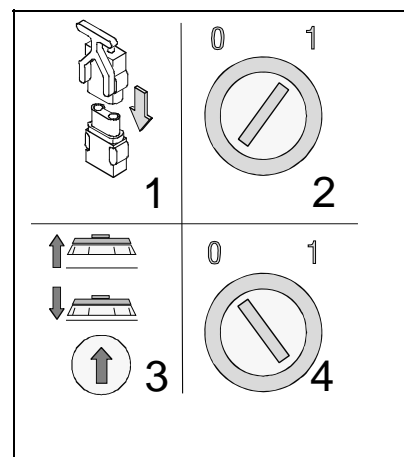


16. ASSEMBLING THE CYLINDRICAL BRUSHES (85BS)

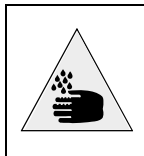
1. Connect the battery connector
2. Turn the key to position "1"
3. Move the lever to lift the base
4. Turn the key to position "0" and remove it from the electrical board



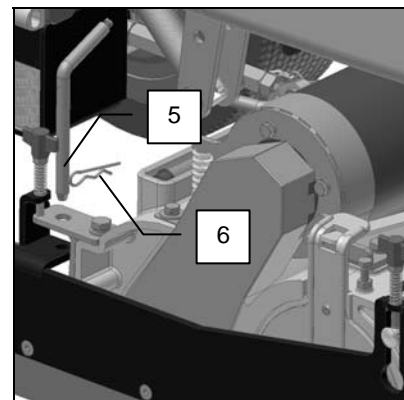
WARNING! During this operation, check there are no people or objects near the brush.



5. With the base up, release the clip (6) and unthread the front pin (5). Raise the splash guard support (7) until the fixing screw (8) is in line with the hole.
6. Rotate the support (7), releasing it from the screw (8), and unthread the left-hand splash guard.
To assemble the brush on the opposite side, repeat the same operations to unthread the right-hand splash guard.



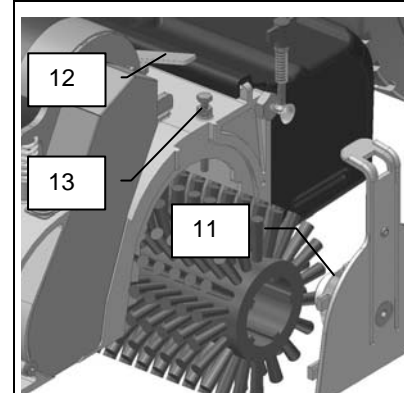
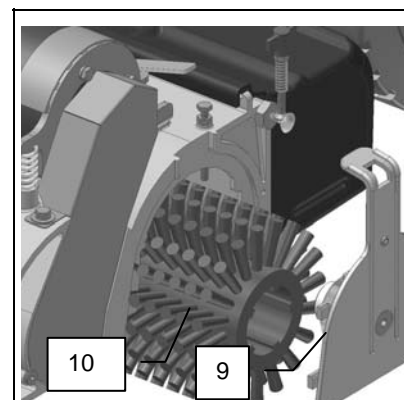
ATTENTION: you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands





MACHINE PREPARATION

7. To release the brush support plate (9), lower it until it touches the tunnel, then pull it outwards.
8. Insert the cylindrical brush (10) in the hole of the tunnel. Raise the brush, pushing it forwards until its hub is inserted in the driving pulley.
9. Insert the mobile pulley (11) - fixed to the brush support (9) - in the cylindrical brush (10).
10. Raise the support (9) and hook the teeth up to the tunnel shoulder. At the same time, lower the hook-up lever (12) until it is inserted in the square hole on the support (9).
11. Release the support (9) by pushing it slightly forwards until the end of its upward stroke
12. Repeat the same operations for the right-hand brush support
13. Adjust the alignment of the brushes by means of the screw (13), so the lower edge of the support (9) coincides with the end of the brushing tunnel.
14. Reassemble the side splash guards, repeating the release operations in the reverse order.

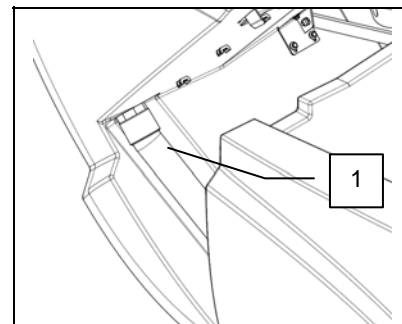




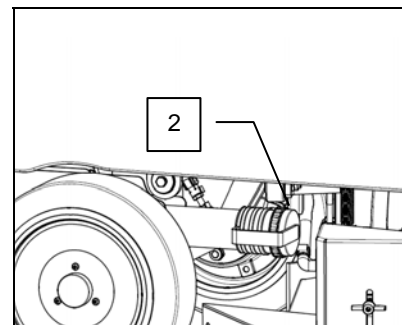
MACHINE PREPARATION

17. RECOVERY TANK

Check correct position of the suction tube (1), that must inserted in the fitting.



Check that the plug (2) knob on the drainage tube is screwed

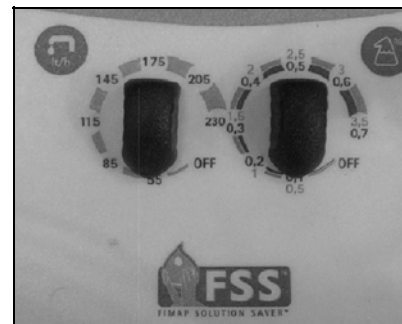


18. DETERGENT SOLUTION WITH FSS DOSING SYSTEM

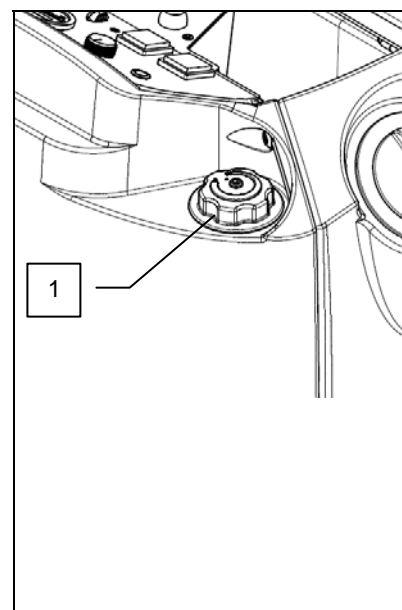
The machine is equipped with an automatic dosing system for dosing the water/detergent solution.

Thanks to the two knobs on the machine commands instrument panel, this device allows you to regulate the quantities of water and detergent used. Fill the tank or the relative detergent level indicator (1) with liquid detergent as indicated by the manufacturer. Check the level indicator is well closed, to avoid any liquid leaking out while the machine is being used.

To regulate the water/detergent mixture, see the chapter "Regulating the detergent"



	<p>ATTENTION: The FSS dosing system materials allow using acid or alkaline detergents with the following warnings: always use detergents whose manufacturer's label indicates their suitability for scrubbing machines. Do not use acid or alkaline products or solvents without this indication. In addition, you are advised to always use low foam detergents. Do not use pure acids, soda, bleach, chlorine, formaldehyde and mineral solvents. In case of doubts, refer to the Fimap assistance service.. If the FSS system is not daily used, wash the detergent circuit with water.</p>
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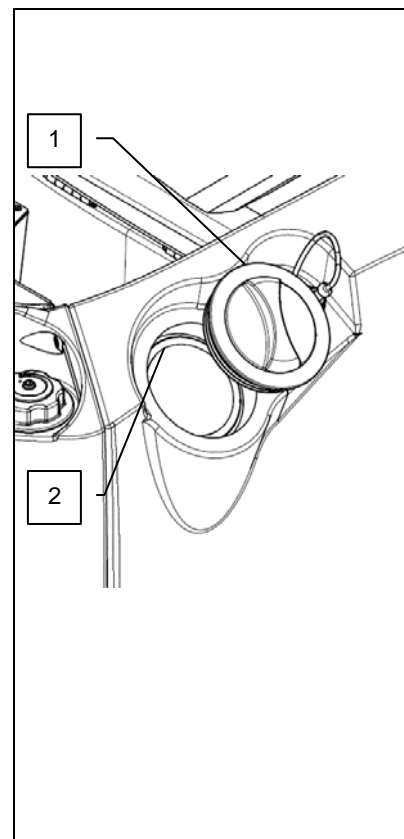
MACHINE PREPARATION

19. DETERGENT SOLUTION (VERSION WITHOUT FSS) OR USE OF WATER AND DETERGENT SOLUTION

Undo the solution tank cap (1), check that the solution filter (2) is correctly fitted and refill with clean water at a temperature not higher than 50°C. Add the liquid detergent in the concentration and manner specified by the manufacturer. It is possible to check the water level of the solution tank via the level indicator (3) on the seat side. The formation of excess foam could damage the suction motor, so use only the minimum amount of detergent necessary.

	ATTENTION: always use detergents whose manufacturer's label indicates their suitability for scrubbing machines. Do not use acid or alkaline products or solvents without this indication. In addition, you are advised to always use low foam detergents. Do not use pure acids or detergents with a stronger gradation than that indicated on the label supplied.
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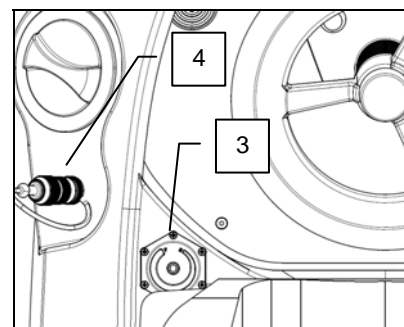
	ATTENTION: Put on protective gloves before handling acid/alkaline detergents or solutions, to avoid the risk of burning your hands.
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20. EMPTY SOLUTION TANK DEVICE

To check the quantity of water in the solution tank there is a suitable level indicator placed next to the driver seat. When the indicator is on letter "E" (Empty), it is advisable to top up the solution tank.

On the scrubbing machine dosing system (FSS) there is a solution tank top-up system through quick coupling (4) with floating device to check overflow

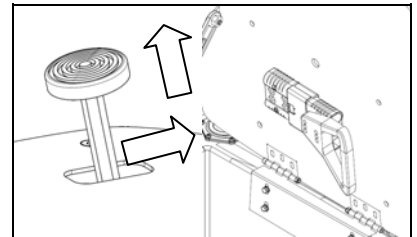




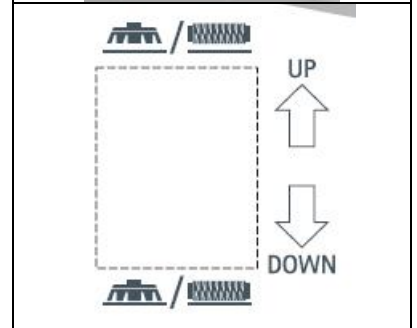
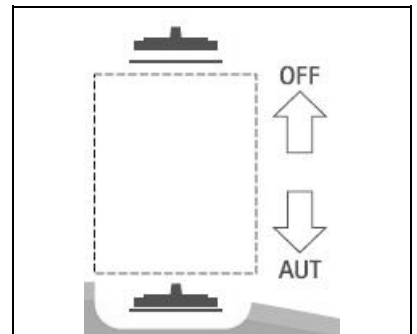
WORK

PREPARING TO WORK

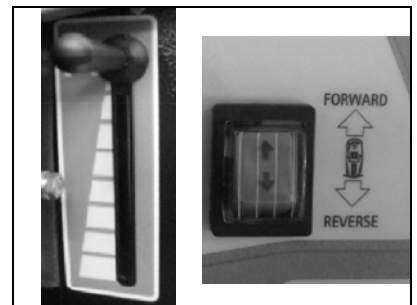
1. Carry out the operations to prepare the machine.
2. Connect the connector to the batteries.
3. Sit on the driver's seat.
4. Check the parking brake is released.
5. Turn the key of the main switch a quarter of a turn clockwise. Immediately, on the instrument panel, the display will turn on indicating the charge level of the batteries.



6. Place the squeegee switch in automatic, suction will turn on automatically.
7. Push the brush switch downwards (DOWN) to lower the base.



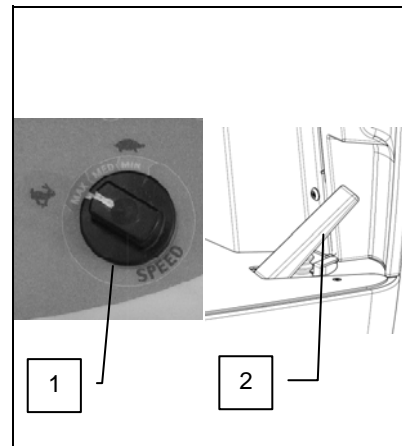
9. In the basic model, move the knob lever downwards and adjust the solution quantity desired. (if there is a dosing system, refer to paragraph "REGULATING THE AUTOMATIC WATER/DETERGENT DOSING SYSTEM FSS")
10. Place the forward movement selector.





WORK

12. Select the advance speed by turning the knob (1). The selector has three positions, indicated by the symbols: turtle = slow speed, middle position = normal speed, hare = fast speed
13. After pressing the accelerator pedal (2), the machine starts moving and the squeegee drops down.
During the first metres, check there is sufficient solution and that the squeegee dries perfectly.
The machine will start working in good working order up to run out of detergent solution or until the battery is discharged.



REGULATING THE AUTOMATIC WATER/DETERGENT DOSING SYSTEM (FSS)

The machine has switches and knobs for regulation.

When you have finished regulating the quantities, you can remove the knobs and cover the holes with the rubber caps supplied.

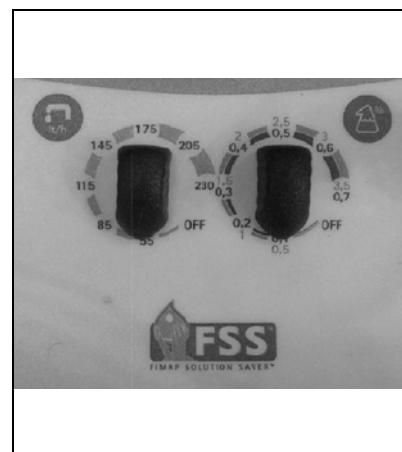
The left-hand knob allows you to regulate the solution flow, while the right-hand one regulates the quantity of detergent.

The scale of detergent for each of the seven positions shows two values, expressed as percentages.

The inner scale refers to the use of concentrated detergents, while the outer scale refers to standard detergents.

To use standard detergent, just refill the appropriate tank with the detergent. To use concentrated detergents, it is necessary to pour in the empty tank 3lt of concentrated detergent and then add 12 lt of water.

In both cases, the water/detergent quantities must be decided on the basis of how dirty the floor is



ATTENTION: The FSS automatic dosage system is designed to work with any liquid detergent. For this reason, the percentage of detergent in the solution is subject to a maximum error of 5% compared with the nominal value selected.



WARNING! this operation must be carried out using gloves to protect against contact with dangerous solutions

5 lt.		4 lt. + 1lt.	
Detergente standard	Standard detergent	Detergente concentrato	Concentrated detergent
0,5%	0,5%	0,1%	0,1%
1%	1%	0,2%	0,2%
1,5%	1,5%	0,3%	0,3%
2%	2%	0,4%	0,4%
2,5%	2,5%	0,5%	0,5%
3%	3%	0,6%	0,6%
3,5%	3,5%	0,7%	0,7%

MODALITA' D'USO:
Inserire la tanica in versore direttamente il detergente nella tanica da 5 litri in dotazione.
Selezionare, tramite il selettore sul cruscotto, la % diluizione detergente equivalente tra i valori indicati nella tabella.

MODALITA' D'USO:
Versare 4 litri di detergente concentrato e riempire completamente di acqua la tanica da 5 litri in dotazione.
Selezionare, tramite il selettore sul cruscotto, la % diluizione detergente equivalente tra i valori indicati nella tabella.

INSTRUCTIONS:
Insert the can as you directly the detergent into the 5 liter can.
Select with the Analog the instrument panel the dilution % you need among the values indicated in the table.

INSTRUCTIONS:
Pour 4 liter concentrated detergent and fill completely the equipped 5 liter can with water.
Select with the knob on the instrument panel the dilution % you need among the values indicated in the table.



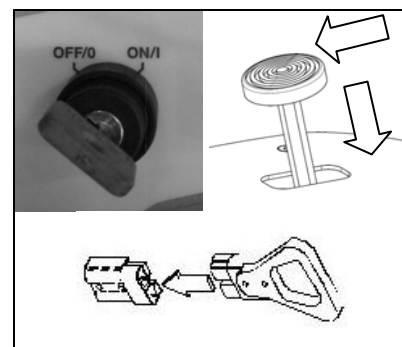
WORK

BRUSH PRESSURE

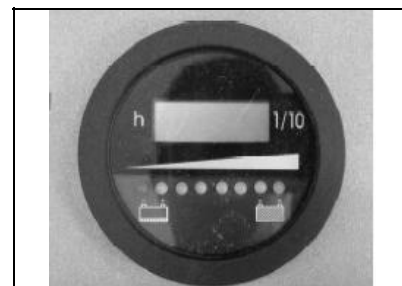
It is possible to increase the pressure on the brushes via the switch on the instrument panel to the right of the steering wheel. The pressure must be chosen according to the type of floor and the extent of the dirt. A pressure increase causes greater wear and tear of the brushes and higher energy consumption (for further information, read "CHOOSING AND USING THE BRUSHES")



ATTENTION: Whenever problems arise during operation turn off the key, set the emergency brake by pushing the lever down and pulling it towards yourself until it is hooked in place, then quickly detach the emergency lever placed below the operator. These commands block all moving machine parts. To start working again, once you have solved the problem, reconnect the connector, turn on the key and release the parking brake pedal. The machine will not start if the operator is not properly seated.

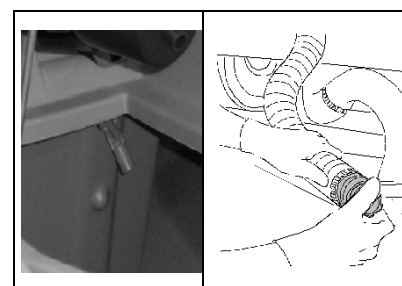


A flashing red warning light appears on the display when the battery charge level is getting too low. The brush motor automatically turns off; batteries must be recharged as soon as possible. A residual charge remains so you can complete the drying operation and move the machine to the recharging point



OVERFLOW DEVICE

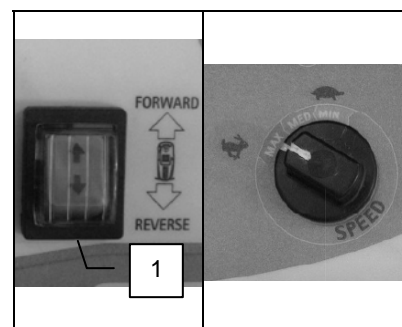
The machine is fitted with a switch that intervenes when the recovery tank is full, causing the suction tube to close. In this case you must empty the tank. To start working again turn the main key-operated switch off and on again



TRACTION

This machine is equipped with electronically commanded traction, with three-speed forwards and one backwards. To move the machine, it is necessary to turn the key and then move the switch (1) forwards (forward movement) or backwards (rear movement). Press the drive pedal and the machine will start to move. The movement speed can be adjusted by rotating the selector.

During reverse motion, the machine emits an acoustic signal
In the basic version, speed regulation is carried out via the accelerator pedal.

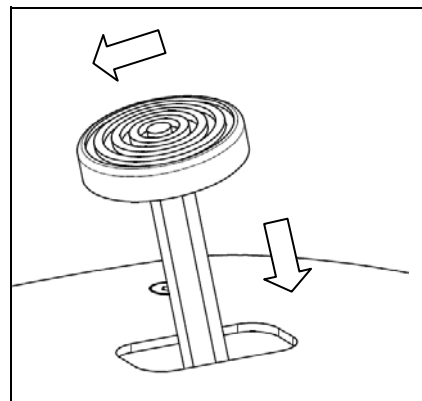




WORK

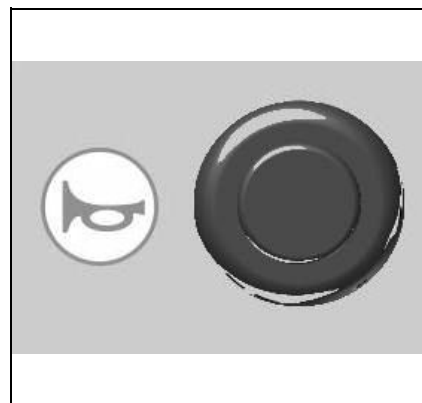
BRAKES

The machine has an electronic braking system. To brake, in normal conditions, just remove your foot from the accelerator pedal. If the service brake does not operate properly or in case of need (parking, danger, etc.) actuate the pedal-operated mechanical brake by pushing it down and pulling it towards yourself until the lever is hooked up (1).



ACOUSTIC ALARM

The machine is fitted with an acoustic alarm, commanded from the button on the electrical commands instrument panel.





WORK

FLASHING LIGHT (models with FSS dosing system)

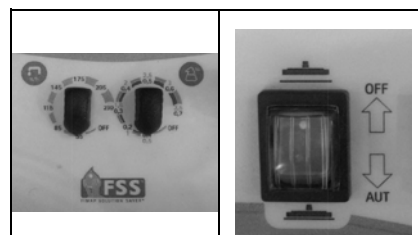
The machine has a flashing light that turns on automatically when the key in the main switch is turned on.



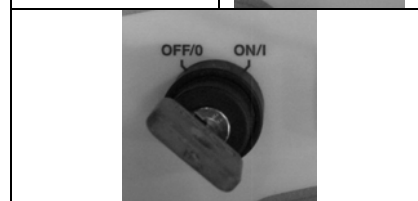
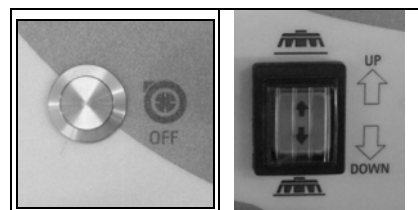
AT THE END OF THE WORK

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

1. Close the tap or turn the knob to OFF in case of FSS dosing system
2. Place the squeegee on OFF, it will lift automatically



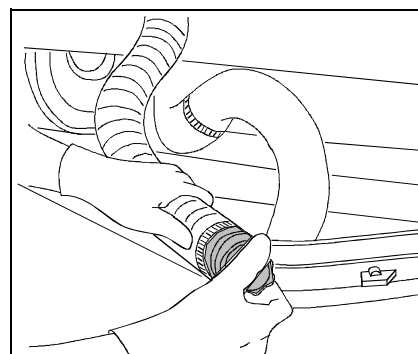
4. Switch off the suction motor switch.
5. Raise the base by means of the switch.
6. Bring the machine to the place provided for draining the water
7. Turn the key a quarter of a turn counter-clockwise to turn the machine off.



9. Disconnect the tube from its seat, unscrew the drainage cap and empty the recovery tank.

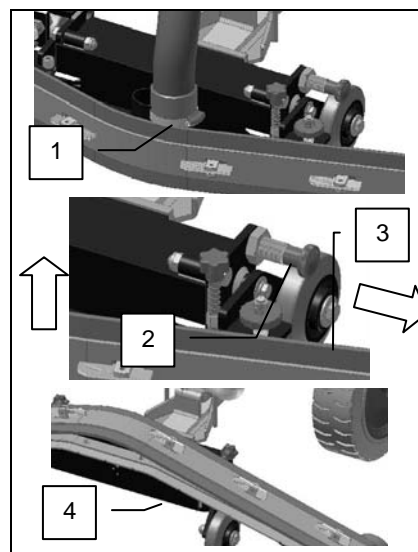


WARNING! this operation must be carried out using gloves to protect against contact with dangerous solutions



11. Clean the squeegee with a jet of water. The squeegee must be raised when the machine is not operating, to avoid deforming the rubber blades. To facilitate the cleaning of the rubbers, the squeegee can be rotated forwards. (EXCEPT BASIC VERSION)

12. Slide the suction tube (1) from the squeegee sleeve
13. Pull out the knob (2) and raise the squeegee with the corresponding support (3).
14. Rotate the squeegee forwards until it locks. The knob (2) will hook up to the support (4) so as to stop the squeegee from moving back.
15. After cleaning the rubbers, bring the squeegee back to its initial position by pulling the knob and rotating the support backwards until it is hooked.





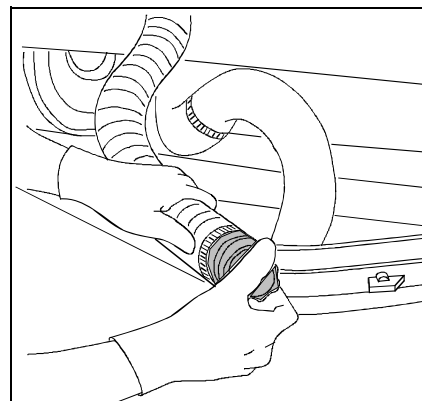
DAILY MAINTENANCE

CLEANING THE RECOVERY TANK

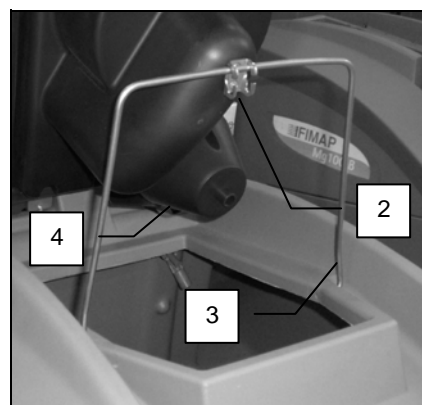
1. Empty the tank through the hose, turning the knob a few turns and then pulling out the drain plug



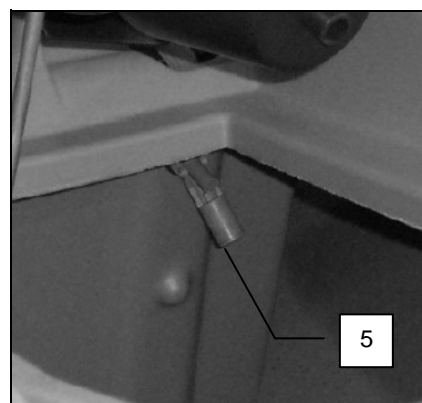
WARNING! this operation must be carried out using gloves to protect against contact with dangerous solutions



2. Raise the cap until the prop (2) is hooked to the prop (3) of the recovery tank.
3. Check the filter inside the cover (4) is clean and, if necessary, loosen the cover fixing screws and carefully rinse the filter



5. Check the electric float (5) inside the tank is clean
6. Rinse the recuperation tank and clean the drain plug
7. Reposition the cap on the drainage tube and lower the suction cap. To lock the prop (3) just slightly raise the cap, release the prop (3) and lower the cap up to close it.



CLEANING THE SQUEEGEE

Clean the squeegee with a jet of water. Check the condition of the rubbers and reverse or replace them as necessary. Careful cleaning of the entire aspiration unit ensures a longer working life for the aspiration motor.

Clean the squeegee tube and make sure it is not clogged.

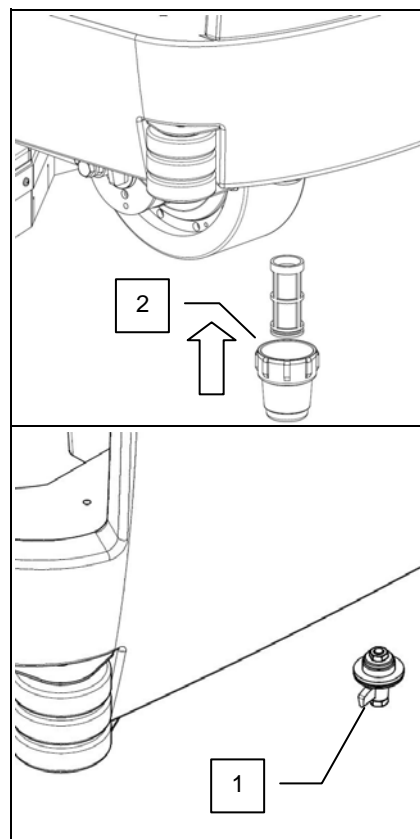
(For further information, see paragraph 9 – AT THE END OF THE WORK)



DAILY MAINTENANCE

CLEANING THE SOLUTION TANK AND FILTER:

1. Empty the clean water tank by removing the plug (1), once the tank is empty, insert the plug again.
2. turn on the tap
3. Unscrew and carefully rinse the filter (2)
4. remove the plug from the solution tank refill opening
5. rinse the inside of the tank with a jet of water
6. remove and clean the filter cartridge
7. reassemble everything, repeating the above-mentioned operations in the reverse order

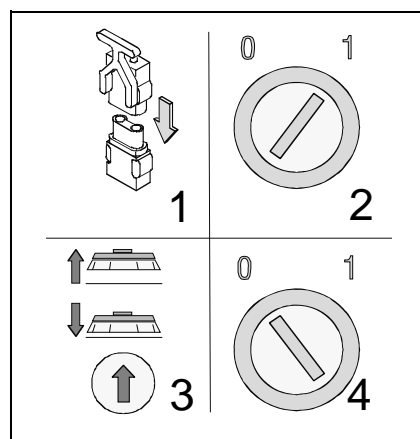


DISC BRUSH DISASSEMBLY

1. Connect the battery connector if it is not already connected
2. Turn the key to position "1"
3. Use the manipulator to lift the base (if it is not already raised)
4. Turn the key to the 0 position and remove it from the panel (carrying out the brush disassembly operation with the power supply connected may cause injuries to the hands).

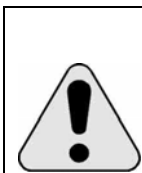


WARNING! This operation must be carried out using gloves to protect against contact with dangerous materials and solutions.

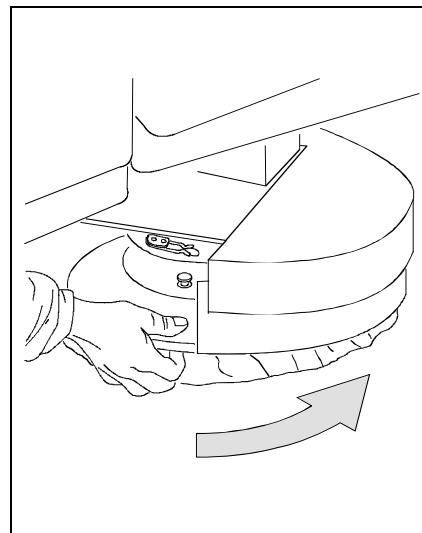




5. Rotate the brush until it exits from the seat on the brush-bearing plate as illustrated. The photo shows the direction of rotation for releasing the right brush. Rotate in the opposite direction for the left brush.



WARNING! if the brushes are jammed then follow this procedure up to point 4, remove the casing, slide the knobs; Turn the brush until the slot on the brush-bearing plate is below the hole machined on the base. Insert a screwdriver into the hole and clamp the plate. Strongly rotate the brush until it is released. Reassemble everything, carrying out the above-mentioned operations in the reverse order





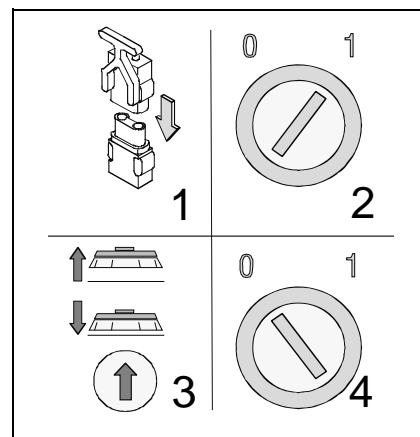
DAILY MAINTENANCE

REMOVING THE CYLINDRICAL BRUSHES

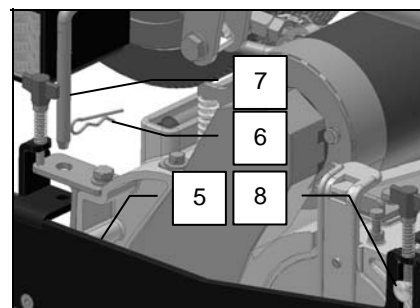
1. Connect the battery connector if it is not already connected
2. Turn the key to position "1"
3. Use the manipulator to lift the base (if it is not already raised)
4. Turn the key to the 0 position and remove it from the panel (carrying out the brush disassembly operation with the power supply connected may cause injuries to the hands).



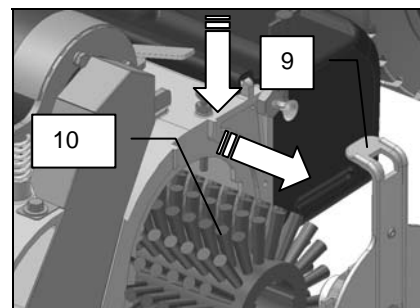
WARNING! This operation must be carried out using gloves to protect against contact with dangerous materials and solutions.



5. With the base up, release the clip (6) and unthread the lower pin (7)
6. Raise the splash guard support (5) until the fixing screw (8) is in line with the respective hole.
7. Remove the splash guard support (5), resting it on the floor.

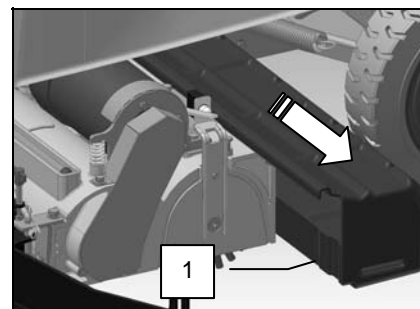


8. Push the brush support plate (9) downwards, then pull it outward until it is released from the brush.
9. Release the cylindrical brush (10) by pulling it towards you then removing it from the tunnel
10. Clean the bristles of the brush with a jet of water
11. Reassemble the cylindrical brushes (see ASSEMBLING THE CYLINDRICAL BRUSHES)



CLEANING THE DRAWER

12. Remove the left-hand side splash guard
13. Unthread the hopper (1)
14. Empty the drawer and clean it with a jet of water
15. Reassemble the hopper
16. Reassemble the left-hand side splash guard





WEEKLY MAINTENANCE

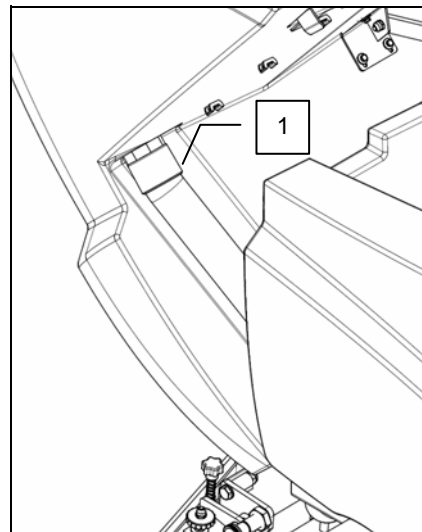
CLEANING THE SUCTION TUBE

Whenever suction seems to be unsatisfactory, check that the suction tube is not obstructed. If necessary, clean it with a water jet introduced from the side where it is connected to the tank. Proceed as follows:

1. Detach the aspiration tube from the seat (1) on the recuperation tank
2. Clean it with a water jet introduced from the side where it is connected to the tank
3. Reassemble everything, carrying out the above-mentioned operations in the reverse order



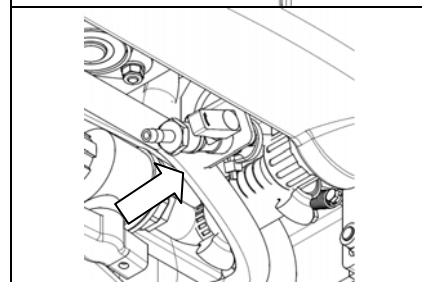
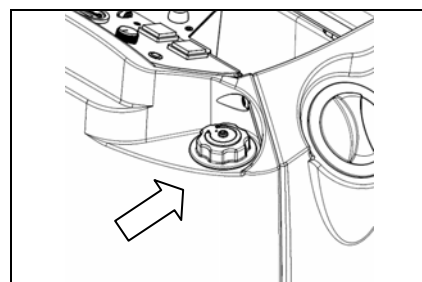
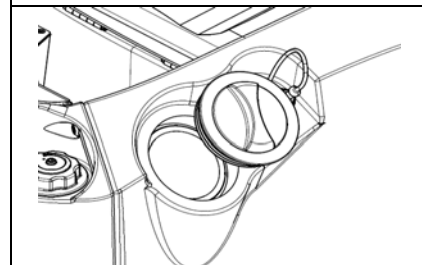
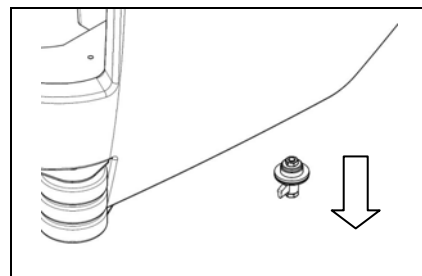
WARNING! This operation must be carried out using gloves to protect against contact with dangerous materials and solutions.



CLEANING THE SOLUTION TANK AND THE DETERGENT SOLUTION TANK

At least once a week, it is necessary to carefully clean the solution tank in order to keep the machine in perfect state:

1. Remove the solution tank lower plug.
2. Remove the solution tank upper plug and the corresponding filter.
3. Clean the tank with a water jet introduced from the upper loading mouth.
4. Refit both caps. Now the machine is ready for a new working cycle.
5. Remove the detergent solution tank level indicator.
6. Open the detergent drainage tap placed in the lower part of the machine, near the water tap.
7. Clean the tank with a water jet introduced from the upper loading mouth.
8. Refit the plug and close the tap. Now the machine is ready for a new working cycle.





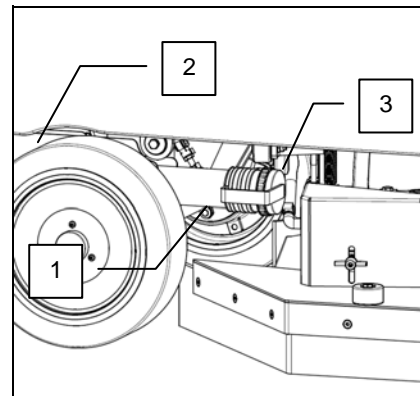
WEEKLY MAINTENANCE

CLEANING THE RECOVERY TANK

1. Empty the recovery tank via the flexible tube, unhooking the hose (1) from the support (2)
2. Open the nozzle, unscrewing the closing flange (3)



WARNING! This operation must be carried out using gloves to protect against contact with dangerous materials and solutions.



3. Open the recovery tank suction cap and rinse inside
4. Clean the nozzle and tighten the flange
5. Reposition the hose on the support and reclose the tank cap



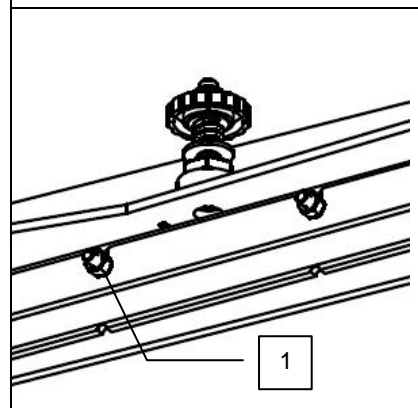
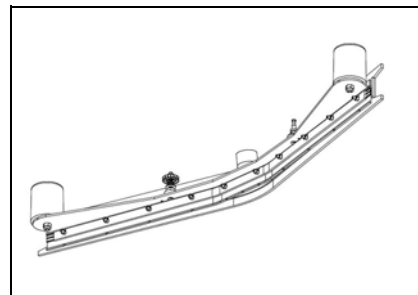


EXTRAORDINARY MAINTENANCE

REPLACING THE FRONT SQUEEGEE RUBBER

Suction will be poor and the machine will not dry perfectly if the front squeegee rubber is worn. Proceed as follows to replace:

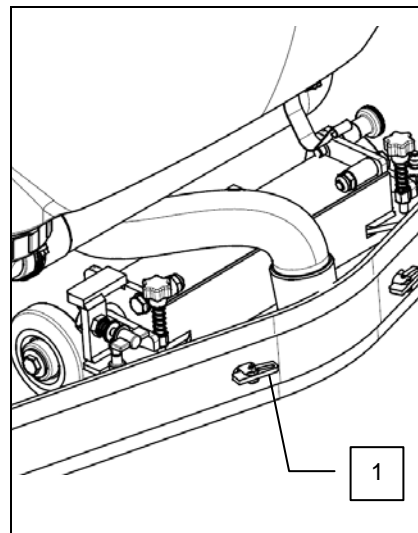
1. Detach the squeegee from the machine
2. Loosen the screws that clamp the front rubber (1)
3. Remove the rubber-pressing blade
4. Pull out and replace the rubber
Reassemble everything, carrying out the above-mentioned operations in the reverse order



REPLACING THE REAR SQUEEGEE RUBBER

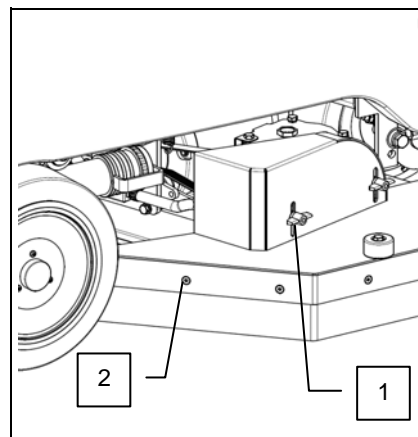
If the squeegee rear rubber is worn and does not dry well, it is possible to change the drying edge, proceeding as follows:

1. push and rotate the fixing plates (1)
2. remove the rubber-pressing blade and the rubber itself
3. turn the rubber upside-down and, if necessary, replace it
4. reassemble everything, carrying out the above-mentioned operations in the reverse order
5. adjust the height of the squeegee depending on the rubber (see "ADJUSTING THE HEIGHT OF THE SQUEEGEE SUPPORT")



REPLACING THE BASE SPLASH GUARD

1. Periodically check the state of wear of the washing base splash guard. To replace proceed as follows:
2. Lower the base until it touches the floor
3. Take off the casings by slipping off the clips (1)
4. Undo screws (2) that clamp the blades that lock the splash guard
5. Remove and replace the splash guard
6. Reassemble everything, carrying out the above-mentioned operations in the reverse order

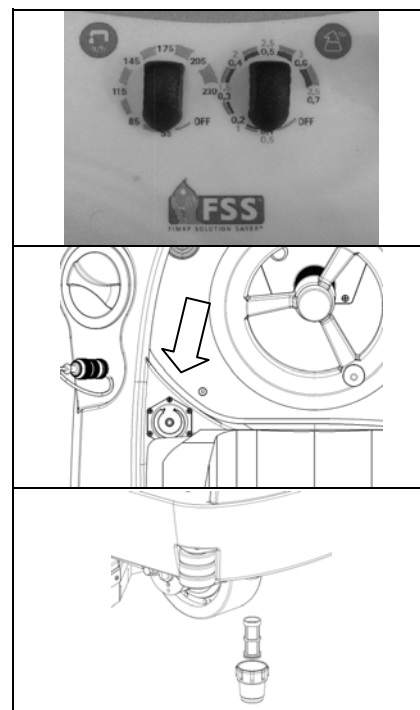




TROUBLESHOOTING

INSUFFICIENT WATER ON THE BRUSHES

1. Check the tap is turned on
2. Check there is water in the solution tank
3. Clean the solution filter



THE SQUEEGEE DOES NOT DRY PERFECTLY

1. Check the squeegee is clean
2. Check the regulation of the squeegee (see "MACHINE PREPARATION")
3. Clean the entire suction unit (see "WEEKLY MAINTENANCE")
4. Replace the rubbers, if worn

THE MACHINE DOES NOT CLEAN WELL

1. Check the state of wear and tear of the brushes and, if necessary, replace them. The brushes should be changed when the bristles are about 15mm long. To replace them, see "REPLACING THE BRUSHES", or "DISASSEMBLING THE BRUSHES" and "ASSEMBLING THE BRUSHES". Working with over-worn brushes may cause damage to the floor.
2. Use a different kind of brush to the one fitted as standard. For cleaning floors where the dirt is particularly resistant, we recommend the use of special brushes supplied upon request and according to needs (see "CHOOSING AND USING THE BRUSHES").



TROUBLESHOOTING

EXCESSIVE FOAM PRODUCTION

Check that a low foam detergent has been used. If necessary, add a small quantity of antifoam liquid to the recovery tank.

Remember that, when the floor is not very dirty, more foam is generated. In this case the detergent solution should be more diluted.



TROUBLESHOOTING

THE SUCTION MOTOR DOES NOT FUNCTION

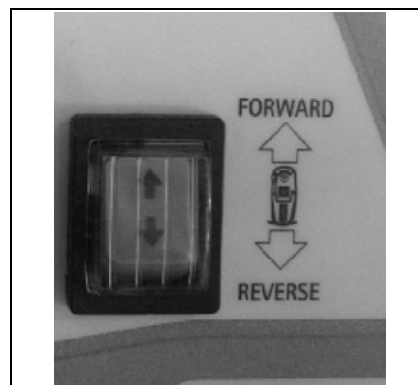
1. Check whether the recovery tank is full and, if necessary, empty it
2. Check the float switch is working well (see also "CLEANING THE RECOVERY TANK" in the chapter "DAILY MAINTENANCE")



THE BRUSH MOTOR DOES NOT WORK

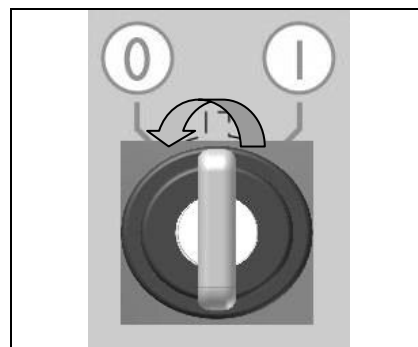
ATTENTION To avoid damaging the floor, the motor only starts up when the machine is moved forwards

1. Check the base is down
2. The operator must be properly seated in the driving position
3. Check the movement manipulator is engaged forwards or backwards
4. Check no thermal protection device has intervened.
Check the electrical connector of the washing unit is correctly connected, as well as the safety connector.



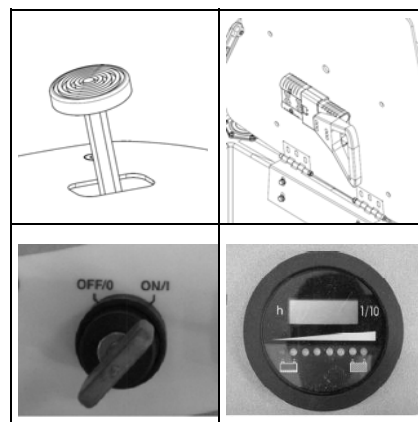
IT IS IMPOSSIBLE TO RAISE OR LOWER THE BASE OR SQUEEGEE

1. The machine is fitted with electrical protection devices that control the base and squeegee ascent/descent motor reducers. In the event of overloading, the fuses interrupt the power supply. After checking and removing the reason for the problem, to reset them just switch the machine off then on again. If the problem persists, contact the FIMAP technical assistance centre.



THE MACHINE DOES NOT START

1. The operator must be properly seated in the driving position
2. Check the parking brake pedal (1) is released
3. Check that connector (2) is connected to the batteries
4. Check the key switch (3) is on
5. Check that batteries (4) are charged



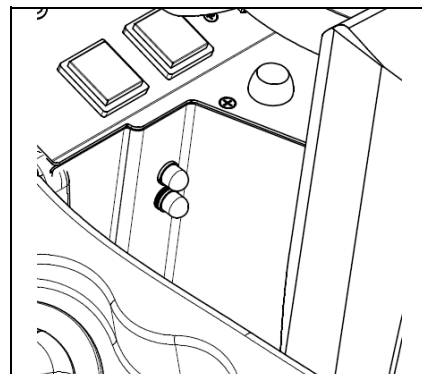


TROUBLESHOOTING

ELECTRIC FUSES AND THERMAL CUT-OUTS

The machine is fitted with the following electrical protection systems:

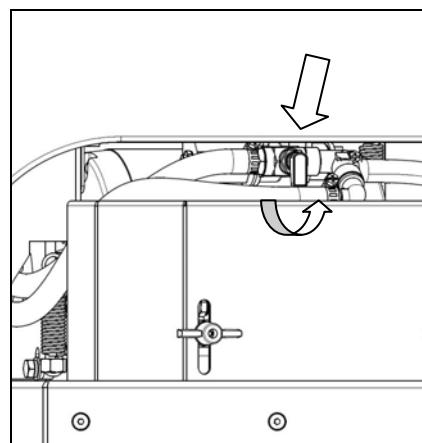
1. Automatic thermal trip units placed inside the electrical system.
2. Reset thermal trip units arranged on the outside, on the column, to protect:
 - the 50A base motor
 - the 20A suction motor



THE AUTOMATIC WATER/DETERGENT DOSING SYSTEM DOES NOT WORK

The automatic water/detergent dosing system has been designed with criteria of extreme sturdiness and reliability, but there is a special by-pass system that allows you to use the machine even if the system is out-of-use.

To by-pass the automatic water/detergent dosing system, you must rotate the tap lever on the front right of the machine upwards; in this way you can go on working even with the system out-of-use. Remember, however, to put not only water in the solution tank, but the right quantities of both water and detergent. With the dosing system out-of-use, the water flow is regulated via the tap on the steering column. Contact an Authorised Retailer to have the system repaired.



ALARMS

The machine is fitted with a flashing indicator light for diagnosing system anomalies and checking the traction motor. Each sequence (number of consecutive flashes) indicates a particular type of fault. When flashing begins (with an accompanying working fault), you should contact the technical assistance centre, specifying the number of flashes.





CHOOSING AND USING THE BRUSHES

POLYPROPYLENE BRUSH (PPL)

Used on all types of floors. Good resistance to wear and tear, and hot water (no greater than 60°C). The Polypropylene brush is non-hygroscopic and therefore retains its characteristics even when working in wet conditions.

NYLON BRUSH

Used on all types of floors. Excellent resistance to wear and tear, and hot water (even over 60°C). The nylon is hygroscopic and so tends to lose its characteristics over time when working in wet conditions.

ABRASIVE BRUSH

The bristles of this type of brush are charged with highly aggressive abrasives. It is used to clean very dirty floors. To avoid floor damage, work only with the pressure strictly necessary.

STEEL BRUSH

The bristles are in steel wire. It is used to descale floors that are abrasion-resistant, very irregular or with wide joints.

THICKNESS OF THE BRISTLES

Thicker bristles are more rigid and are therefore used on smooth floors or floors with small joints.

On uneven floors or those with deep joints, it is advisable to use softer bristles which can enter the gaps more easily.

Remember that when the bristles are worn and therefore too short, they will become rigid and are no longer able to penetrate and clean deep down. In this case, like with overlarge bristles, the brush tends to jump.

PAD HOLDER

The pad holder is recommended for cleaning shiny surfaces.

There are two types of pad holder:

1. the traditional pad holder is fitted with a series of anchor points that allow the abrasive floor pad to be held and dragged while working
2. the CENTER LOCK type pad holder not only has anchor points, but also a snap-type central locking system in plastic that allows the abrasive floor pad to be perfectly centred and held without any risk of it becoming detached. This type of dragging device is recommended above all for machines with more than one brush, where the centring of the abrasive discs is difficult.

TABLE FOR CHOOSING THE BRUSHES

Machine	N° Brush	Code	Type of bristles	ØBristles	Ø Brush.	Length	Notes
MG - 75	2	414272	PPL	0.3	390		CENTER LOCK
		414270	PPL	0.6			
		414273	PPL	0.9			
		414271	ABRASIVE				
		405580	PAD HOLDER				
MG - 85	2	405562	PPL	0.3	440		CENTER LOCK
		405563	PPL	0.6			
		414261	PPL	0.9			
		405565	ABRASIVE				
		405506	PAD HOLDER				



MG - 100	2	405609 405610 405516	PPL NYLON Pad holder	1 1.5	510 510 505		
MG - 85BS	2	404650 404651 404652	PPL PPL ABRASIVE	0.7 1.0 1.2	150	828	WHITE WHITE GREY



EC DECLARATION OF CONFORMITY

The undersigned company:
FIMAP S.p.A.
Via Invalidi del Lavoro no.1
37050 Santa Maria di Zevio (VR)
declares under its sole responsibility that the

SCRUBBING MACHINE mod. MG 75 - MG 85 – MG 85BS – MG 100

complies with the requirements of the following Directives:

98/37/EEC: Machinery Directive

2004/108/EC: Electromagnetic Compatibility Directive and subsequent modifications.

It also complies with the following standards:

EN 60335-1: Household and similar electrical appliances - Safety. Part 1: Generic standards

EN 60335-2-72: Household and similar electrical appliances. Part 2: Generic standards for automatic machines for floor treatment for commercial and industrial use

EN 60335-2-29: Household and similar electrical appliances. Part 2: Special standards for battery chargers.

EN 12100-1: Safety of Machinery - Basic concepts, general principles for design - Part 1: Basic terminology and methodology

EN 12100-2: Safety of Machinery - Basic concepts, general principles for design - Part 2: Technical principles

EN 55014-1: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 1: Emission - Regulation for product family.

EN 55014-2: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 2: Immunity - Regulation for product family.

EN 55022: Devices for information technology – Radio interference characteristics – Limits and measurement methods.

EN 61000-6-2: Electromagnetic compatibility (EMC) - Part 6-2: Generic standards – Immunity for industrial environments.

EN 61000-6-3: Electromagnetic compatibility (EMC) - Part 6-3: Generic standards — Standard emission for residential, commercial and light-industrial environments.

EN 61000-3-2: Electromagnetic compatibility (EMC) - Part 3-2: Limits – Limits for harmonic current emissions (Equipment with input current ≤ 16 A per phase).

EN 61000-3-3: Electromagnetic compatibility (EMC) - Part 3-3: Limits – Restriction of voltage variations and flicker in low voltage power supply systems for devices with a rated current ≤ 16 A.

EN 50366: Household and similar electrical appliances - Electromagnetic fields Methods for evaluation and measurement

Santa Maria di Zevio,

FIMAP S.p.A.

Legal representative
Giancarlo Ruffo

FIMAP spa

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