

# USE AND MAINTENANCE MANUAL

 **FIMAP**<sup>®</sup>

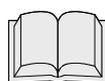


MMx E

ED. 05-2011

EN

ORIGINAL  
INSTRUCTIONS  
Doc. 10018437  
AC Version



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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.

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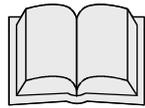
### Symbols used in the manual

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Open book symbol with an "i"  
Indicates the need to consult the instruction manual

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

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Warning symbol  
Read carefully the sections marked with this symbol, for the safety of the operator and the machine

---



Warning symbol  
Indicates danger of gas exhalation and leakage of corrosive liquids

---



Warning symbol  
Pay attention to the possible crushing of the fingers.

---



Disposal symbol  
Carefully read the sections marked with this symbol, for machine disposal



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## On consignment of the machine

When the machine is delivered 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 been damaged 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

MMx is a floor scrubbing machine which, via the mechanical action of the rotating brush and the chemical action of a water/detergent solution, can clean any type of flooring. As it advances, it also collects the dirt removed and the detergent solution not absorbed by the floor.

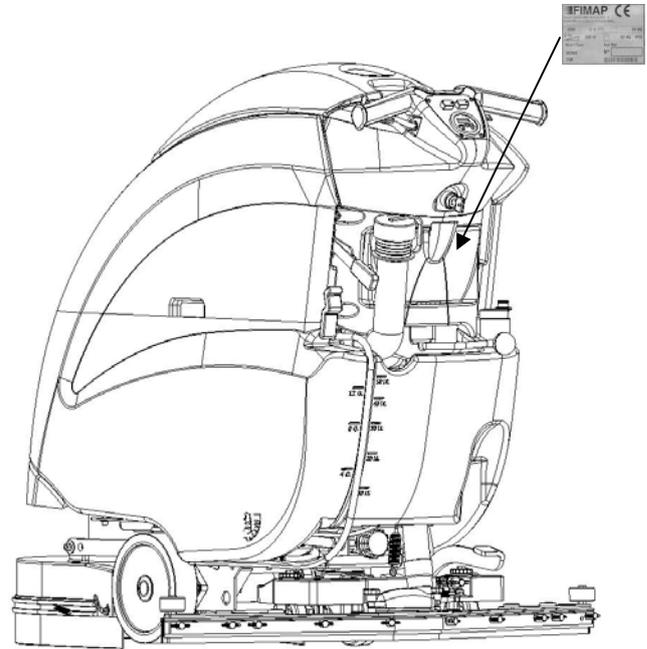
**The machine must be used only for this purpose.** Even the best machines will only work well if used correctly and kept in good working order. We therefore suggest you read this instruction booklet carefully and read it again whenever difficulties arise while using the machine. If necessary, remember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

## Intended use

The scrubbing machine is designed exclusively for the professional cleaning of surfaces and floors in industrial, commercial and public environments. The machine is only suitable for use in closed (or at least covered) places.

The machine is not suitable for use in the rain, or under water jets. It is FORBIDDEN to use the machine in places with a potentially explosive atmosphere, for picking up dangerous dusts or inflammable liquids. In addition, it is not suitable as a means of transport for people or objects.

## Serial number plate



TECHNICAL DESCRIPTION	UM	MMx 43 E	MMx 50 E	MMx 500 E
Rated power	W	770	770	1200
Working width	mm	430	500	500
Width of rear squeegee	mm	660	742	742
Work capacity	m <sup>2</sup> /h	1250	1450	1450
Water consumption	g/m <sup>2</sup>			
Brushes (diameter or length)	∅ mm	420	500	500
Brush rotations	rpm	140	140	240
Pressure on the brushes	kg	23	23	33
Brush motor	V/Hz/W	230/50/320	230/50/320	230/50/750
Maximum gradient	%	-	-	-
Forward speed	km/h	-	-	-
Suction motor	V/W	230/450	230/450	230/450
Suction vacuum	mbar			
Solution tank PE	l	40	40	40
Recovery tank PE	l	50	50	50
Gross weight of the machine ready for use	kg	125	125	135
Noise level (in compliance with IEC 04/1)	dB (A)	62	62	72.1
Vibration level	m/s <sup>2</sup>	0.75	0.75	1



## SYMBOLS USED ON THE MACHINE



Tap symbol  
Used to indicate the water regulation switch



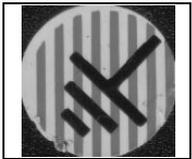
Indicates the maximum temperature of the detergent solution  
Located near the solution tank inlet



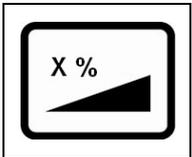
Voltage symbol  
Used to indicate the machine's voltage switch



Symbol showing risk of crushed hands  
Used to indicate the risk of crushed fingers



Indicates the earth connection point of the electric system of the machine



Indicates the maximum gradient



## GENERAL SAFETY REGULATIONS

**The regulations illustrated 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 exclusively used 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.
- Avoid damaging the power supply cable by crushing or bending it, or applying stress.
- Do not let the power cable come into contact with the rotating brush.
- If you notice damage to the mains power supply cable, do not use the machine and contact an authorised service centre immediately
- Do not mix different types of detergent as this may produce harmful gases.
- Do not place any liquid containers on the machine.
- The machine is designed for dry use only and should not be used or kept outdoors under humid conditions.
- 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 which may damage the machine.
- 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.
- If the machine is used where there is a risk of falling objects, the machine must be equipped with protection devices against falling objects.
- Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- The machine is designed to simultaneously carry out the washing and drying operations. 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, verify that this is not caused by failure to carry out routine maintenance. Otherwise, ask for intervention of the authorised technical assistance centre.
- If you need to replace any components, request the ORIGINAL spare parts from an Authorised dealer and/or Retailer.
- For all maintenance interventions, switch off the machine and disconnect the power supply socket.
- 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.
- Have the machine checked by an authorised technical assistance centre every year.
- To prevent scaling in the solution tank filter, do not fill the tank with detergent solution many hours before using the machine.
- Before using the machine, verify that all the hatches and covers are positioned as shown in this Use and Maintenance Manual.
- When disposing of consumption materials, comply with currently effective laws and regulations.
- When your machine has reached the end of its long working life, dispose of the materials it contains (especially oils and electronic components) in an appropriate manner, taking into account that the machine itself was constructed by using 100% recyclable materials.
- Only use the brushes supplied with the device, or those specified in the Use and Maintenance Manual (page 22). The use of other brushes could compromise safety levels.
- The device must be disconnected from the power supply before removing the battery.
- 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.
- Whenever the machine is not being used, apply the emergency brake and remove the ignition key.

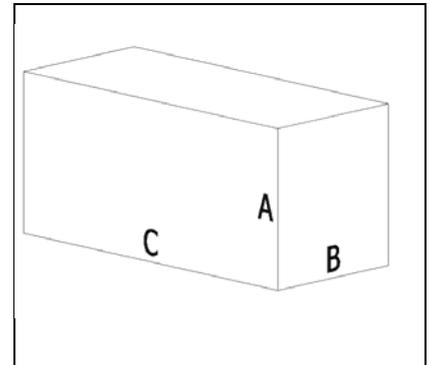


## MACHINE PREPARATION

### 1. HANDLING THE PACKED MACHINE

The machine is contained in specific packaging.  
It is not possible to place more than two packages on top of each other.  
The total weight is 100kg  
The overall dimensions of the package are:

- A: 1140 mm
- B: 660 mm
- C: 1230 mm

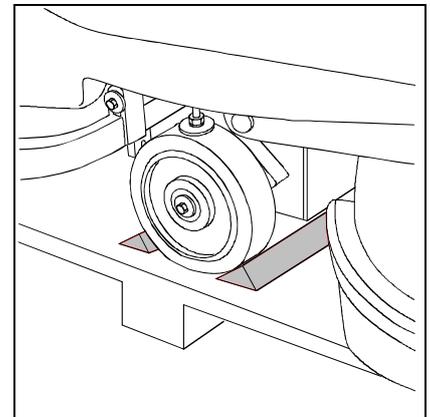


### 2. HOW TO UNPACK THE MACHINE

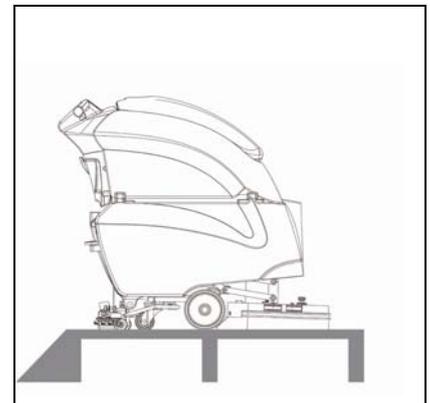
1. Remove the outer packaging
2. The machine is fixed to the pallet with wedges which block the wheels
3. Remove these wedges



**ATTENTION:** this operation must be carried out using gloves to protect your hands.

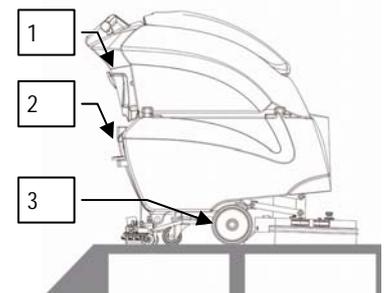


4. Use a chute to get the machine down from the pallet, pushing it backwards. Avoid violent blows to the brush head
5. Keep the pallet for any future transport needs



### 3. HOW TO MOVE THE MACHINE

1. To safely move the machine, you should use a pallet to support it positioning wooden wedges to block the wheels.
2. Lower the squeegee (1) with the lever
3. Lower the brush head (2) supporting the brushes, by means of the lever
4. Secure the machine using wheel chocks (3), as shown in the figure.



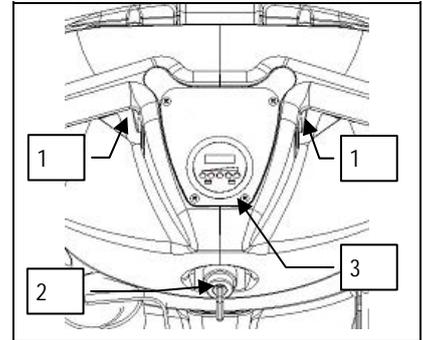


## MACHINE PREPARATION

### 4. INSTRUMENT PANEL COMPONENTS

The instrument panel components are identified as follows:

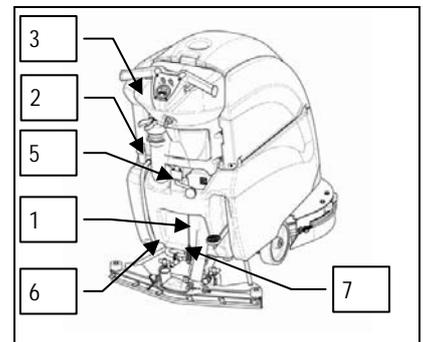
1. Levers to activate brushes (located beneath the grip)
2. ON/OFF key switch
3. Hour-counter display



### 5. REAR COMPONENTS

The rear components are identified as follows:

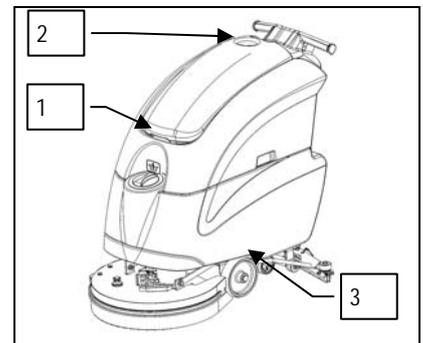
1. Brush lifting pedal
2. Water/solution level tube
3. Drainage tube with recovery tank cap
4. Compartment for battery charger / storage (depending on the model)
5. Squeegee lifting lever
6. Adjustment tap
7. Solution filter



### 6. SIDE COMPONENTS

The side components are identified as follows:

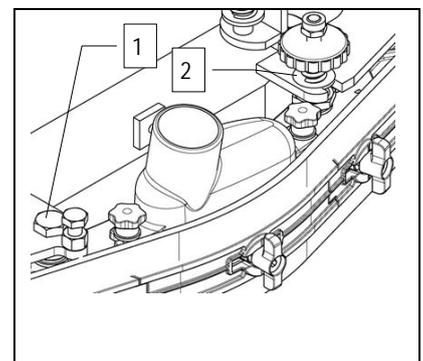
1. Suction unit lifting handle
2. Upper storage compartment
3. Brake lever



### 7. ASSEMBLING THE SQUEEGEE

The squeegee, that for reasons of packaging comes disassembled from the machine, must be assembled while assembling the machine. Proceed as follows for assembly:

1. Turn the key of the master switch anticlockwise to the "0" position.
2. Engage the parking brake located on the left side of the machine.
3. Lift the squeegee connection by means of the lever at the rear of the machine.
4. Lift the squeegee and fit the left stud (1) in the left slot on the squeegee connection.
5. Turn the squeegee and insert the right-hand stud (2) in the right slot on the squeegee connector, taking care to keep the spring and washer on top of the squeegee connector. This can be simplified by first loosening the handwheel on the pin.



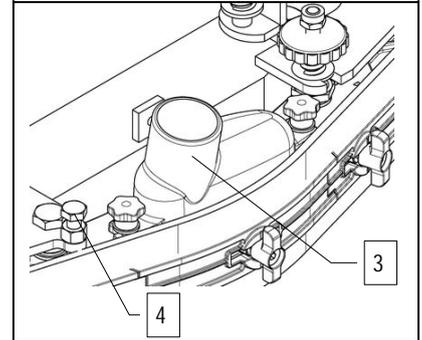


## MACHINE PREPARATION

- Then re-tighten the handwheel to block the squeegee in place.
- Insert the suction tube (3) in the appropriate sleeve on the squeegee, ensuring that the suction tube lies to the right of the lifting cable.

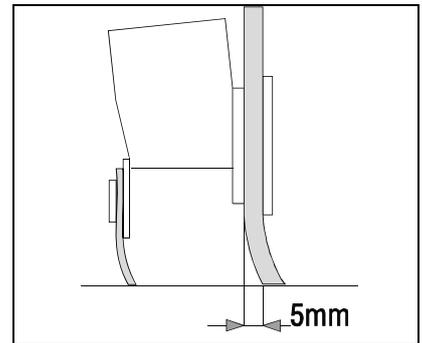


**ATTENTION:** these operations must be carried out using protective gloves to avoid any possible contact with the edges or tips of metal objects



### 8. ADJUSTING THE SQUEEGEE INCLINATION

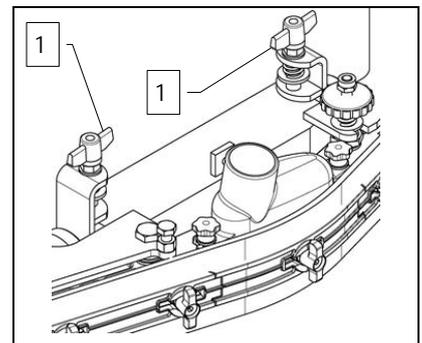
During working operation, the rear rubber is tilted slightly backwards (by about 5 mm) in a uniform way for its whole length. If it is necessary to increase the bend of the rubber in the central part, you must tilt the squeegee backwards, rotating the adjuster (4) anticlockwise. To increase the bend of the rubber at the sides of the squeegee, rotate the set screw clockwise.



### 9. ADJUSTING THE SQUEEGEE HEIGHT

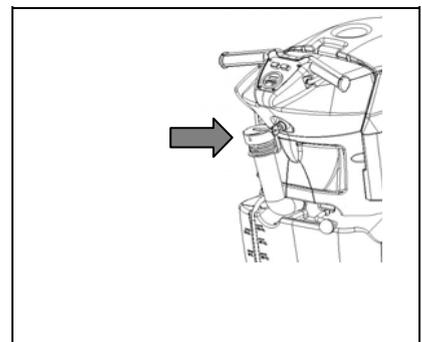
The height of the squeegee must be adjusted on the basis of the state of wear and tear of the rubber. To do this, turn the knob (1) anticlockwise to raise the squeegee, and clockwise to lower it.

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



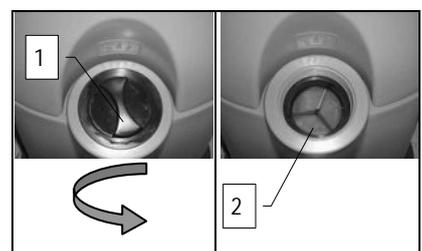
### 10. RECOVERY TANK

Make sure the recovery tank is empty, otherwise empty it completely.  
Check the cap of the drainage tube (on the rear of the machine) is correctly closed.



### 11. SOLUTION TANK

The recovery tank must be completely empty each time the solution tank is filled.  
Remove front inlet cap (1) and check the solution filter (2) is correctly assembled.





## MACHINE PREPARATION

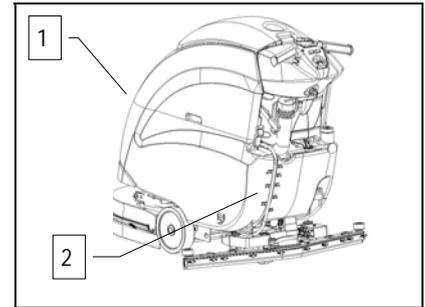
Check filter cap (3) (beneath the solution tank, at the back) is correctly closed.



### 12. DETERGENT SOLUTION

Proceed as follows before filling the solution tank with clean water:

1. Check that the main switch of the machine is set to "Off - 0"
2. Make sure that the power cable of the machine is plugged into the mains socket
3. Check that the parking brake is correctly engaged.
4. Check the recovery tank is empty (if necessary, empty it).
5. Fill the solution tank from the front hole (1) with screw cap. You can check the quantity of solution in the tank by means of the rear hose (2). Fill with clean water at a temperature of not more than 50°C. Fill the solution tank from the front hole (1) with screw cap. You can check the quantity of solution in the tank by means of the rear hose (2).
6. Add the liquid detergent into the tank, in the concentration and manner specified by the manufacturer. The formation of excess foam could damage the suction motor, so use only the minimum amount of detergent necessary.



**WARNING:** always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. Do not use pure acids.



**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.



**ATTENTION:** Protective gloves should always be worn before handling detergents or acidic or alkaline solutions to avoid serious injury to hands.



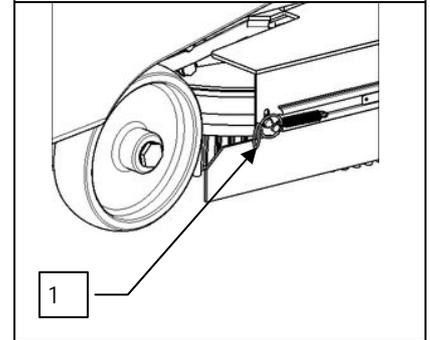
**WARNING:** Acid or alkaline detergents can be used with pH values between 4 and 10 and that do not contain: oxidising agents, chlorine or bromine, formaldehyde, mineral solvents.



## MACHINE PREPARATION

### 13. BRUSH HEAD SPLASH GUARD RUBBER ASSEMBLY

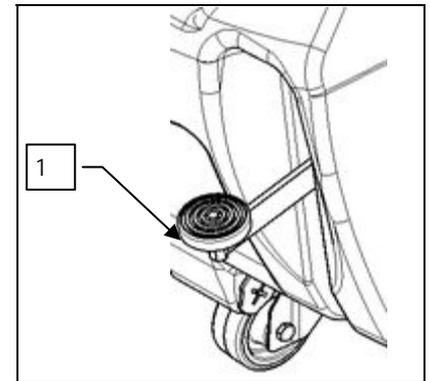
For packaging reasons, the splash guard rubbers are supplied disassembled from the machine. Remove the hook (1) of the spring from the connector screw on the right side of the brush head, wrap the rubber all around the brush head and position it so that it is symmetrical to the brush. Replace the previously removed strip securing the hook (1) of the spring in the screw connector.



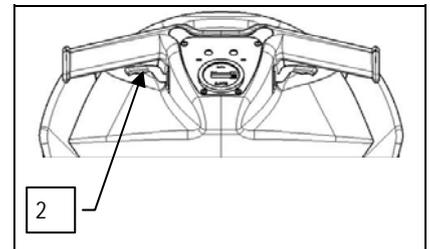
### 14. ASSEMBLING THE BRUSH

Proceed as follows to insert the brush in the brush head:

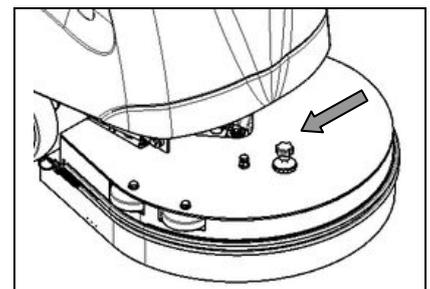
1. Make sure that the power cable of the machine is plugged into the mains socket
2. Raise the brush head by means of the pedal (1).
3. With the brush head up, position the brush in line with the coupling on the machine.
4. Lower the brush head by means of the pedal (1) again.



5. Using the "man present" lever (2), the brush is automatically hooked up.



6. To alter the machine forwards speed, use the knob shown in the figure.



**ATTENTION:** during this operation, check there are no people or objects near the brush.  
**ATTENTION:** Ensure that the moving brush never comes into contact with the power supply cable.  
**ATTENTION:** Check the brush is correctly inserted. If this is not the case, the machine could move in an irregular, sudden manner.



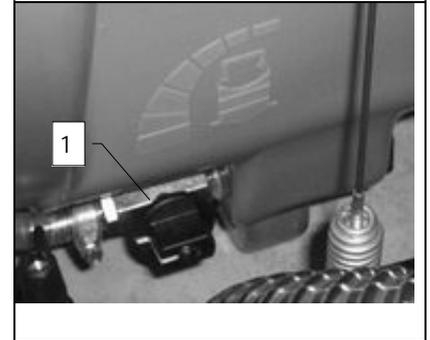
**ATTENTION:** you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands



## MACHINE PREPARATION

### 15. REGULATING THE DETERGENT SOLUTION

First of all, turn the tap in the rear part of the machine fully on, by turning its knob (1) anticlockwise. By pressing the dead man's levers the brushes are activated, the machine starts to move and the detergent is expelled. In the first few metres, check that the quantity of solution is sufficient to wet the floor, but not too much that it exits the splash guard. The amount of detergent can be adjusted by turning the knob (1) clockwise to increase the flow or anticlockwise to reduce the flow. If turned fully to the right the flow of detergent is closed. Bear in mind that the correct amount of solution is always depends on the nature of the floor, the degree of dirt and the forward speed.



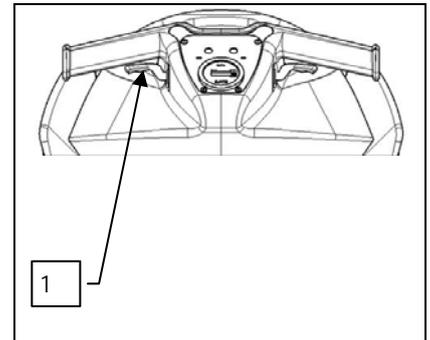
### 16. FORWARD MOVEMENT

The traction of these machines is obtained by means of the brush which, working slightly inclined, is able to drag the machine forwards. To move the machine with the brush down, you must use the key then activate the "man present" levers (1) on the handlebars.



**WARNING:** While working, or when moving the machine, do not exceed gradients greater than the maximum declared machine rating.

**WARNING:** when making even brief reverse movements, check the squeegee is raised.





## WORK

### 1. PREPARING TO WORK

1. Insert the machine plug in the electricity socket.



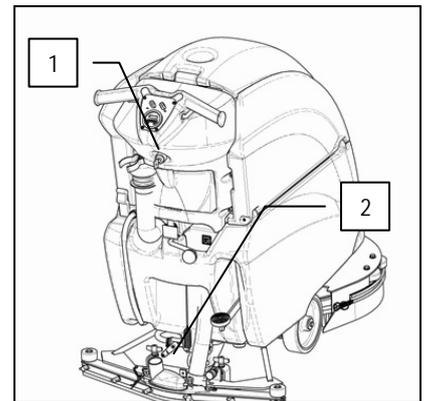
**WARNING!** Check the electricity socket has a protective conductor (or an earth conductor).

**WARNING!** Check the power supply voltage and frequency comply with the nominal values required by the machine.

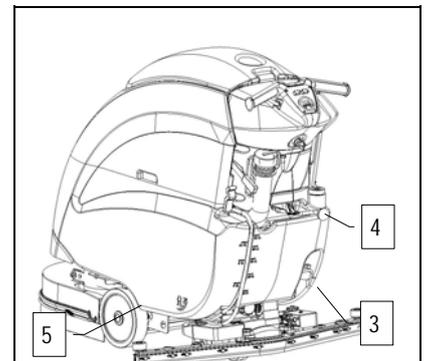
**WARNING!** Check the power supply cable is in perfect condition.

**WARNING!** Do not use additional extension leads.

2. Turn the key (1) of the main switch to the "ON" position (clockwise).
3. Turn on the water tap (2) (the water falls automatically while the brushes are turning).



4. Release the lever (3) and lower the brush head.
5. Lower the squeegee, turning the lever (4) anticlockwise. The suction motor will switch on.
6. Check that the brake (5) is off

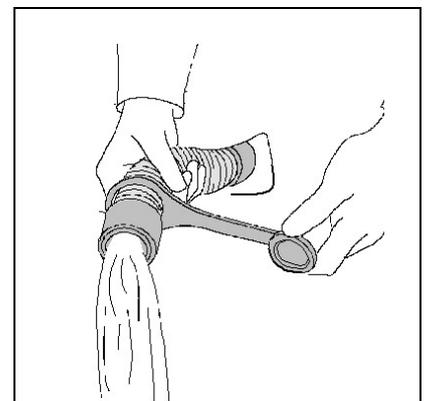


### 3. OVERFLOW DEVICE

The machine is fitted with a float which intervenes when the recovery tank is full, causing the suction tube to close. In this case, you must empty the recovery tank by removing the drainage tube from its support and removing the cap from the rear drainage tube. Channel the drained water towards authorised disposal points.



**WARNING:** this operation must be carried out by using gloves in order to protect against contact with dangerous solutions



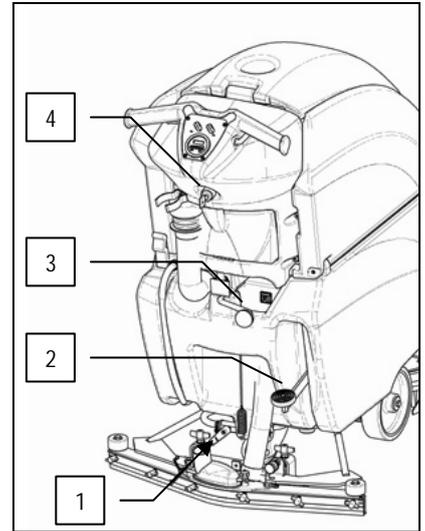


## AT THE END OF THE WORK

### 1. AT THE END OF THE WORK

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

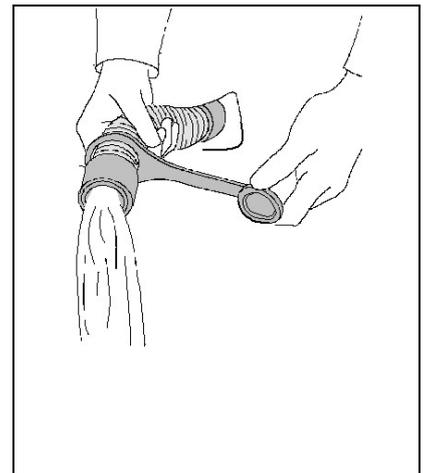
1. Turn off the tap by means of the knob (1)
2. raise the brush head by means of the pedal (2)
3. Raise the squeegee by means of lever (3), turning it clockwise
4. Turn the key switch (4) clockwise
5. Remove the power supply cable from the mains socket
6. bring the machine to the place provided for draining the water



7. Block the machine with the parking brake
8. Remove the drainage hose from its compartment, unscrew the drainage cap and empty the recovery tank
9. The squeegee must be raised when the machine is not operating, in order to avoid deforming the rubber blades.
10. Disassemble the brushes and clean them with a jet of water (to disassemble the brushes, see "DISASSEMBLING THE BRUSHES" below)



**ATTENTION:** this operation must be carried out using gloves to protect against contact with dangerous solutions



### 2. STORING OF THE MACHINE

Proceed as follows to store the machine at the end of work:

1. Place the machine in a place where it can not cause damage or injury
2. Position the machine where the accidental fall of objects do not cause damage
3. Engage the parking brake
4. Turn the key switch to the "0" position
5. Lift the brush head and squeegee



## DAILY MAINTENANCE

### PERFORM ALL MAINTENANCE OPERATIONS IN SEQUENCE

#### 1. CLEANING THE RECOVERY TANK

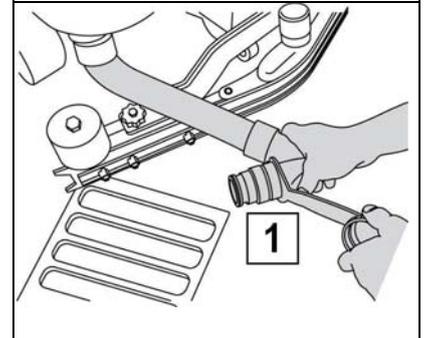
1. Disconnect the power cable from the socket
2. Disconnect the tube (1) from its seat, unscrew the drainage cap and empty the recovery tank.



**WARNING:** Before carrying out any type of maintenance, disconnect the machine's power supply cable.



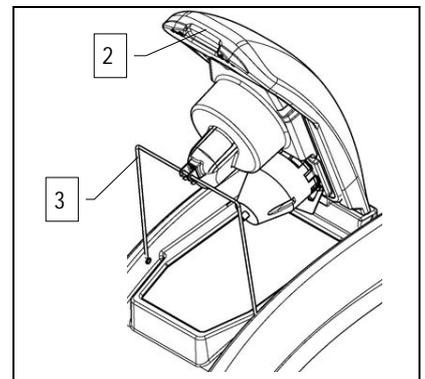
**ATTENTION:** this operation must be carried out using gloves to protect against contact with dangerous solutions



3. Engage the parking brake.
4. Lift the brush head and squeegee from the ground.
5. Raise the cap (2) until the hook is secured to the prop (3) of the recovery tank.
6. Clean and rinse the recovery tank and the suction pipe (connecting pipe between the squeegee and the tank).
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.



**WARNING:** Pay attention when closing the suction cap, as you could crush your fingers.



#### 2. CLEANING THE SUCTION FILTER

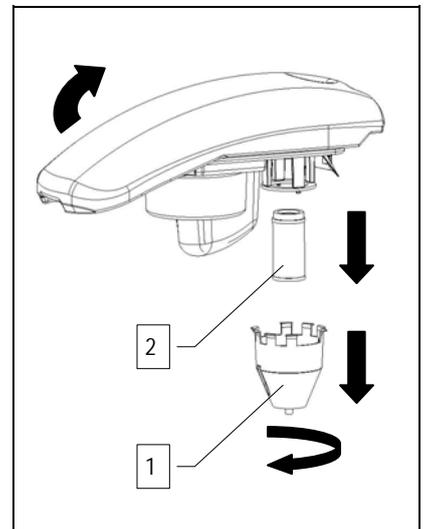
1. Raise the cover.
2. Remove the suction filter protection (1) by rotating it clockwise
3. Pull the filter (2) to remove it
4. Use a jet of water to clean the walls and brush head of the filter. Carry out the cleaning operations carefully.
5. reassemble all the elements.
- 6.



**WARNING:** Before carrying out any type of maintenance, disconnect the machine's battery connector.



**WARNING:** this operation must be carried out by using gloves in order to protect against contact with dangerous solutions



**WARNING:** Pay attention when closing the suction cap, as you could crush your fingers.

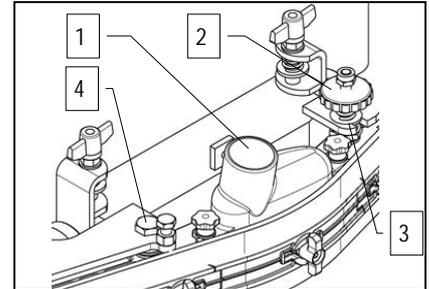


## DAILY MAINTENANCE

### 3. CLEANING THE SQUEEGEE

The careful cleaning of the whole suction group ensures better drying and cleaning of the floor as well as greater duration of the suction motor. Proceed as follows for cleaning:

1. Check that the main switch of the machine is set to "Off - 0"
2. Verify that the battery connector is disconnected from the machine connector
3. Check that the parking brake is correctly engaged.
4. Remove the suction hose from the squeegee nozzle (1)
5. Turn knob (2) clockwise
6. Extract the pin (3) from the slot on the squeegee connector



7. Extract the pin (4) from the slot on the squeegee connector
8. Clean well both the squeegee and the rubbers with a jet of water



**WARNING:** this operation must be carried out by using gloves in order to protect against contact with dangerous solutions

A good vacuum is not obtained if the front and rear rubbers of the squeegee are worn and therefore the machine does not dry completely; in this case to replace them, see paragraphs REPLACING THE FRONT SQUEEGEE RUBBER and REPLACING THE REAR SQUEEGEE RUBBER.

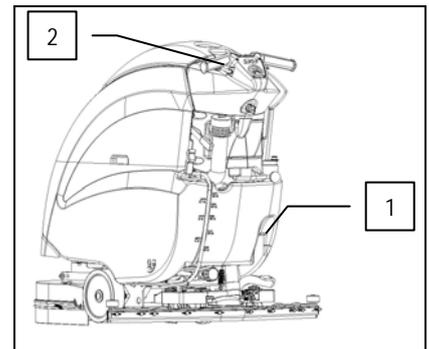
### 4. DISASSEMBLING THE BRUSHA

Proceed as follows to disassemble the brush from the brush head:

1. Raise the brush head by means of the pedal, do not bring it up to its maximum otherwise it will activate the microswitch which stops the motor.
2. With the brush head up, use the "man present" lever to automatically release the brush



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



3. Always check the bristles for signs of wear. You are advised to replace the brushes when the bristles are less than 15 mm long



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

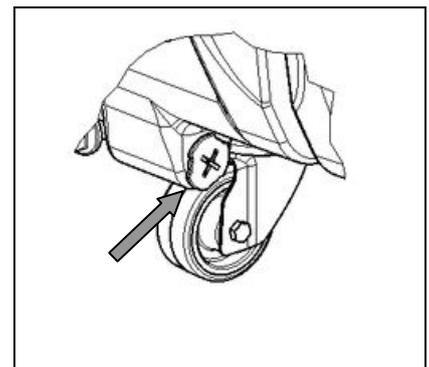
### 5. CLEANING THE SOLUTION TANK DISCHARGE FILTER

Proceed as follows to disassemble the solution tank discharge filter:

1. Make sure that the solution tank is empty
2. Loosen the filter on the lower rear side of the machine
3. Rinse with a jet of water
4. reassemble all the elements



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



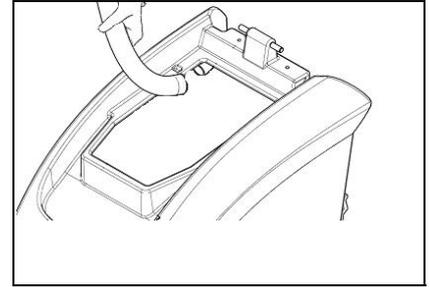


## WEEKLY MAINTENANCE

### 1. CLEANING THE SQUEEGEE TUBE

Every week, or whenever suction seems to be unsatisfactory, check the squeegee tube is not obstructed. To clean it, proceed as follows:

1. Check the recovery tank is empty, otherwise empty it.
2. Remove the suction tube from the squeegee nozzle
3. Remove the other end from the recovery tank
4. Wash the inside of the tube with a water jet introduced from the side where it is connected to the tank. Be careful not to wet other parts of the machine
5. Reassemble the tube



**WARNING:** Before carrying out any type of maintenance, disconnect the machine's power supply cable.



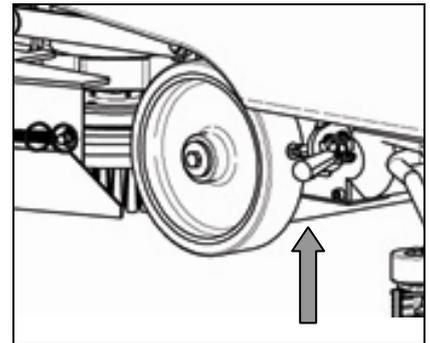
**ATTENTION:** this operation must be carried out using gloves to protect against contact with dangerous solutions

### 2. CHECKING THE BRAKE

Every week, check the distance between the work brake pads and the wheels. If necessary, adjust them by means of the nuts, so they are at a distance of 3mm when homed.



**WARNING:** Before carrying out any type of maintenance, disconnect the machine's power supply cable.

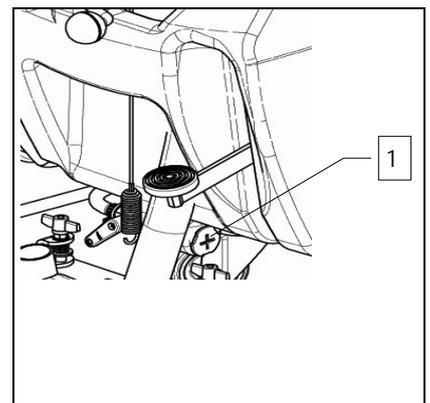


### 3. CLEANING THE SOLUTION TANK

1. Unscrew the front filler cap on the solution tank
2. Rinse the inside of the tank with a jet of water
3. Remove the drainage filter cap (1) and empty the tank
4. Wash the filter cap (1) with a water jet
5. Screw on the filter cap (1)
6. Screw the front filler cap on the solution tank



**WARNING:** this operation must be carried out by using gloves in order to protect against contact with dangerous solutions



**WARNING:** Before carrying out any type of maintenance, disconnect the machine's power supply cable.



## WEEKLY MAINTENANCE

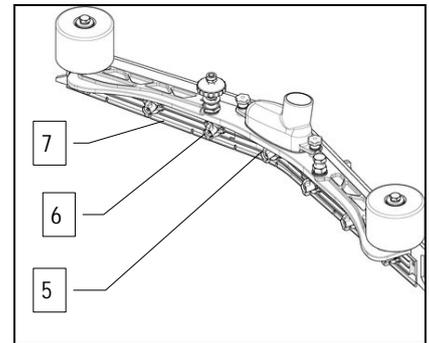
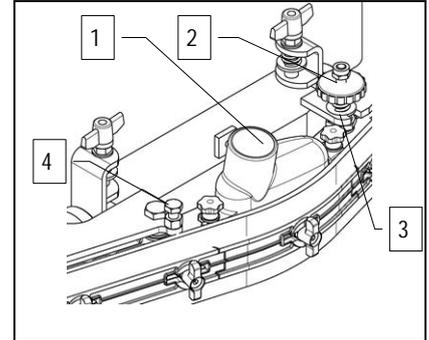
### 4. REPLACING THE FRONT SQUEEGEE RUBBER

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

1. Check that the main switch of the machine is set to "Off - 0"
  2. Verify that the battery connector is disconnected from the machine connector
  3. Check that the parking brake is correctly engaged.
  4. Remove the suction hose from the squeegee nozzle (1)
  5. Turn knob (2) clockwise
  6. Extract the pin (3) from the slot on the squeegee connector
  7. Extract the pin (4) from the slot on the squeegee connector
- 
8. Turn the wing nuts (5) in the horizontal position.
  9. Remove the front rubber-pressing blades (6).
  10. Remove the rubber (7) and replace it.
  11. Proceed in reverse to replace the rubber



**ATTENTION:** These operations must be carried out using gloves to protect against contact with dangerous solutions



### 5. REPLACING THE FRONT SQUEEGEE RUBBER

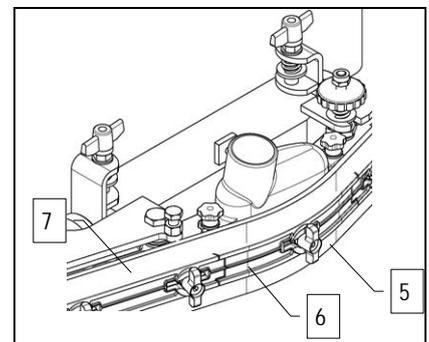
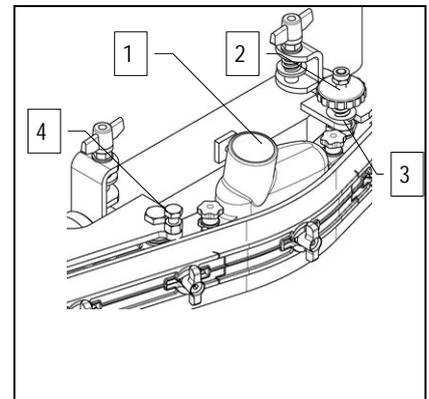
If the squeegee rear rubber is worn and does not dry well, it is possible to change the drying edge using one of the 4 edges of the rubber.

This operation can be done both with a squeegee fitted or removed as follows:

1. Check that the main switch of the machine is set to "Off - 0"
  2. Verify that the battery connector is disconnected from the machine connector
  3. Check that the parking brake is correctly engaged.
  4. Remove the suction hose from the squeegee nozzle (1)
  5. Turn knob (2) clockwise
  6. Extract the pin (3) from the slot on the squeegee connector
  7. Extract the pin (4) from the slot on the squeegee connector
- 
8. Turn the wing nuts (5) in the horizontal position.
  9. Remove the front rubber-pressing blades (6).
  10. Remove the rubber (7) and replace it.
  11. adjust the height of the squeegee depending on the rubber (see "ADJUSTING THE HEIGHT OF THE SQUEEGEE SUPPORT")



**ATTENTION:** These operations must be carried out using gloves to protect against contact with dangerous solutions

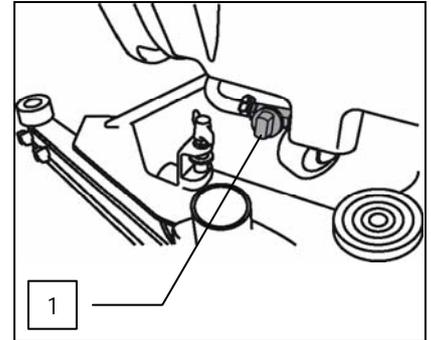




## TROUBLESHOOTING

### INSUFFICIENT WATER ON THE BRUSH

1. Check the tap – located beneath the symbol – (1) is turned on.
2. Check there is water in the solution tank.
3. Check that the solution tank filter cartridge is clean



### THE MACHINE DOES NOT CLEAN WELL

1. Check the state of wear and tear of the brush and, if necessary, replace it (the brush must be replaced when the bristles are about 15 mm long).
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").

### THE SQUEEGEE DOES NOT DRY PERFECTLY

1. Check that the squeegee rubbers are clean, if dirty clean them, and if worn replace them.
2. Adjust the inclination of the squeegee (see "SQUEEGEE" under "MACHINE PREPARATION")
3. Check the suction tube is correctly inserted in its housing on the recovery tank
4. Check the inner filter of the recovery tank is not dirty and, if necessary, clean it thoroughly.
5. Disassemble the entire suction unit and clean it
6. Replace the rubbers, if worn
7. Check the suction motor switch is turned on
8. Check wheel adjustment

### 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.

### ELECTRIC FUSES AND THERMAL CUT-OUTS

The machine is fitted with the following electrical protection systems:  
thermal trip units arranged on the outside of the handlebars, to protect the following motors:

1. 5 A trip unit for squeegee

In the event of malfunctioning, check a thermal cut-out has not intervened. If the motor overheats, its thermal cut-out intervenes to block the electricity supply. Wait a few minutes until it has cooled down, then press the specific trip unit button to reactivate the power supply and motor operation.

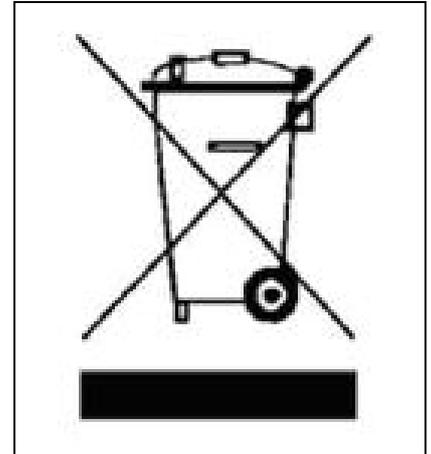


## DISPOSAL

To dispose of the machine, take it to a demolition centre or an authorised collection centre. Before scrapping the machine it is necessary to remove and separate the following materials and send them to the appropriate collection centres in accordance with the environmental hygiene regulations currently in force:

- brushes
- filter
- electric and electronic parts\*
- plastic parts (tanks and handlebars)
- metal parts (levers and frame)

(\* ) In particular, to scrap the electric and electronic parts, contact your area distributor





## 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 CENTRE 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.

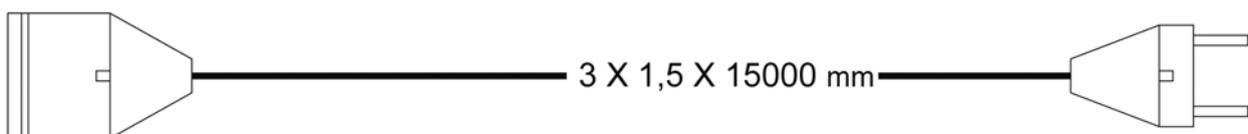
### TABLE FOR CHOOSING THE BRUSHES

Machine	No. of brushes	Code	Type of bristles	Ø Bristles	Ø Brush.	Notes
MMx 43 E	1	414309	PPL	0.3	420	
		414310	PPL	0.6	420	
		414311	PPL	0.9	420	
		414312	ABRASIVE	1	420	
		405507	Centre Lock floor pad	-	420	
MMx 50 E	1	405661	PPL	0.5	500	
405654		PPL	0.7	500		
405658		ABRASIVE	1	500		
423760		Pad holder	-	500		

## SUGGESTED POWER CABLE EXTENSION

CAST SCHUKO PLUG

CAST SCHUKO PLUG





## 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

### FLOOR SCRUBBING MACHINE mod. MMx 43 E- MMx 50 E - MMx 500 E

complies with the requirements of the following Directives:

- 2006/42/EC: Machinery Directive
- 2006/95/EC: Low Voltage Directive
- 2004/108/EC: Electromagnetic Compatibility Directive and subsequent modifications.

It also complies with the following norms:

- EN 60335-1: Household and similar electrical appliances - Safety. Part 1: Generic norms
- EN 60335-2-72: Household and similar electrical appliances. Part 2: Specific norms for automatic machines for floor treatment for commercial and industrial use
- 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 - Regulations for product family.
- EN 55014-2: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 2: Immunity - Regulations for product family.
- 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 62233: Household and similar electrical appliances - Electromagnetic fields Methods for evaluation and measurement

The person authorised to compile the technical file:

Sig. Giancarlo Ruffo  
Via Maestri del Lavoro, 13  
37059 Santa Maria di Zevio (VR) - ITALY

Santa Maria di Zevio, 01/10/2010

FIMAP S.p.A.  
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Giancarlo Ruffo

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