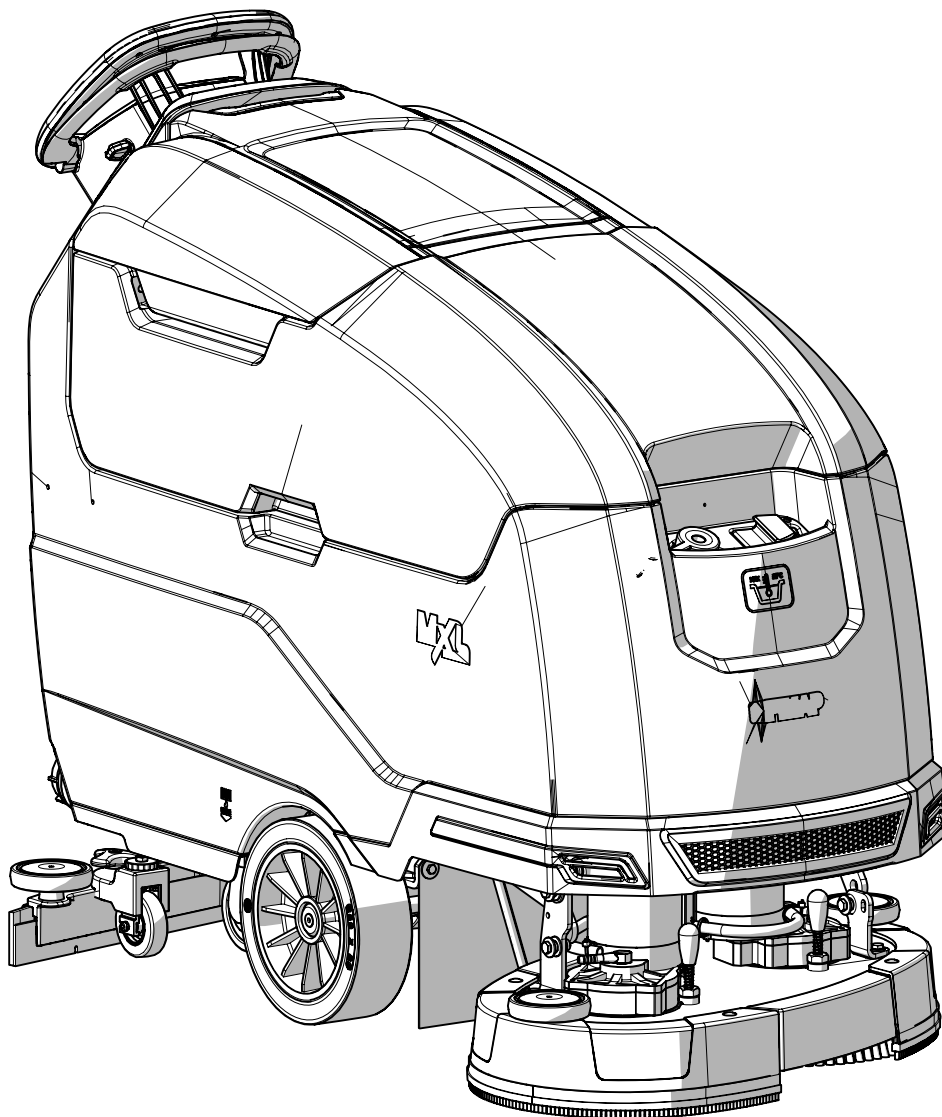


MxL Pro



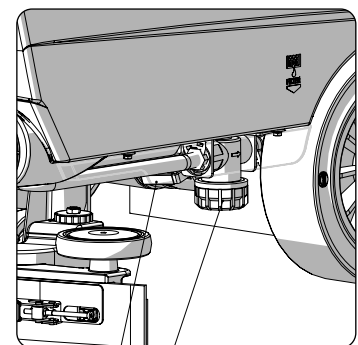
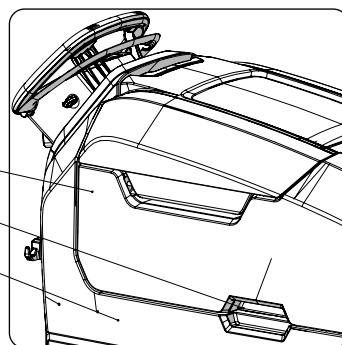
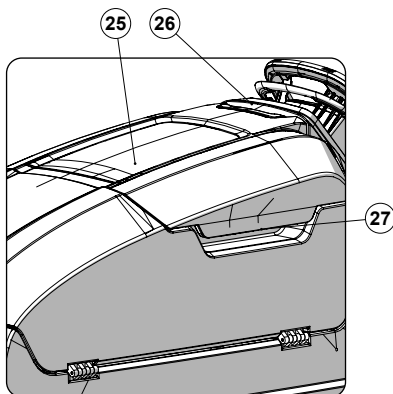
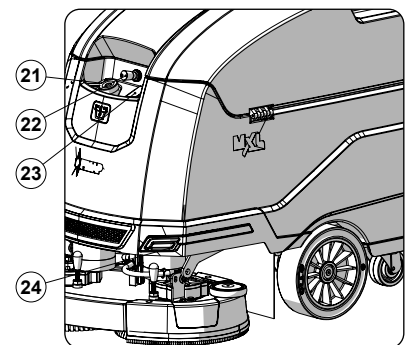
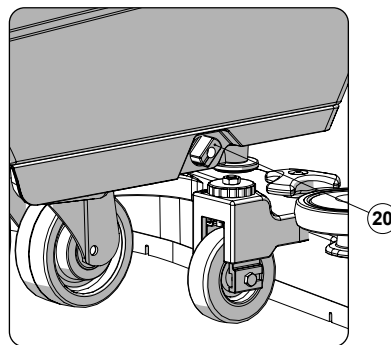
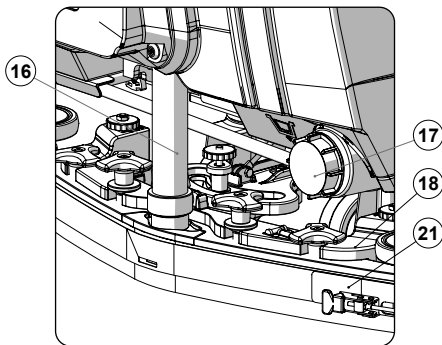
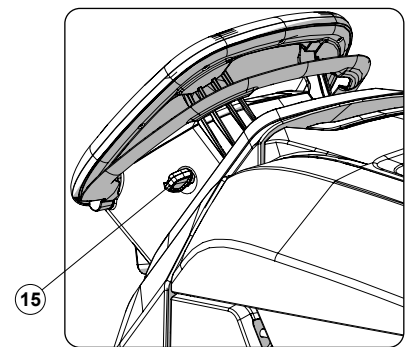
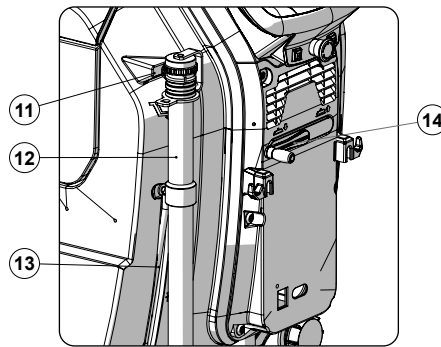
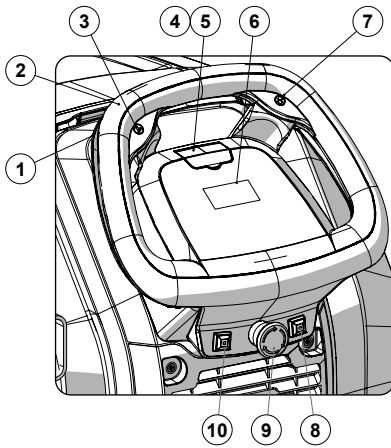
PROFESSIONAL SCRUBBING MACHINES

USE AND MAINTENANCE MANUAL

 **FIMAP**[®]



ORIGINAL INSTRUCTIONS DOC. 10101660 - Ver. AA - 01-2019



MAIN MACHINE COMPONENTS

The machine's main components are the following:

1. Dead man's lever.
2. Control handlebars.
3. Eco Mode button.
4. Cover for FFM "FIMAP FLEET MANAGEMENT" SOS button (Optional).
5. FFM "FIMAP FLEET MANAGEMENT" SOS button (Optional).
6. Control panel and control display.
7. Reverse control button.
8. FSS "FIMAP SOLUTION SAVER" control switch (optional) or FLR "FIMAP LONG RANGE" control switch (optional).
9. Battery disconnect button.
10. "TANK CLEANING GUN" control switch (optional) or "LIQUID VACUUM WAND" control switch (optional).
11. Support hook for recovery tank drainage tube.
12. Recovery tank drainage hose.
13. Solution tank level indicator.
14. Squeegee body control lever.
15. Main key switch.
16. Vacuum tube.
17. Solution tank drainage cap.
18. Squeegee body support.
19. Squeegee body.
20. Water flow adjustment tap.
21. Solution tank filler tube cap.
22. Cover cap for FFF "FIMAP FAST FILL" quick coupling kit (optional).
23. Solution tank filler cap/measuring inlet.
24. Front headlights (optional).
25. Accessory compartment door.
26. Control handle for accessory compartment door.
27. Recovery tank cover lifting handle.
28. Recovery tank.
29. Recovery tank lifting handle.
30. Solution tank.
31. Electric brake control lever
32. Detergent solution filter.

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GENERAL SAFETY REGULATIONS

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

SYMBOLS USED IN THE MANUAL

| | |
|---|---|
|  | Open book symbol with an "i": Indicates the need to consult the instruction manual. |
|  | Open book symbol: Tells the operator to read the user manual before using the device. |
|  | Covered place symbol: The operations preceded by this symbol must always be carried out in a dry, covered area. |
|  | Information symbol: Indicates additional information for the operator, to improve the use of the device. |
|  | Warning symbol: Carefully read the sections preceded by this symbol meticulously following the instructions indicated for the safety of the operator and the device. |
|  | Danger symbol (corrosive substances): The operator should always wear protective gloves to avoid the risk of serious injury to the hands caused by corrosive substances. |
|  | Danger symbol (battery acid leakage): Indicates the danger of leaking acid or acid fumes from the batteries while they are being recharged. |
|  | Danger symbol (moving carriages): Indicates that the packed product should be handled with suitable carriages that conform to legal requirements. |
|  | Mandatory room ventilation symbol: Informs the operator that the room must be ventilated while the batteries are being recharged. |
|  | Symbol indicating the compulsory use of protective gloves: Indicates that the operator should always wear protective gloves, to avoid the risk of serious injury to his hands from sharp objects. |
|  | Symbol indicating the compulsory use of tools: Informs the operator of the need to use tools not included with the machine. |
|  | Symbol indicating a treading ban: Informs the operator that it is forbidden to tread on machine components, as this could lead to serious injury. |
|  | Recycling symbol: Tells the operator to carry out the operations in compliance with environmental regulations in force in the place where the appliance is being used. |
|  | Disposal symbol: Carefully read the sections marked with this symbol for disposing of the appliance. |

PURPOSE AND CONTENT OF THE MANUAL

The aim of this manual is to provide customers with all the information needed to use the machine in the safest, most appropriate and most autonomous way. This includes information concerning technical aspects, safety, operation, downtime, maintenance, spare parts and scrapping. The operators and qualified technicians must carefully read the instructions in this manual before carrying out any operations on the machine. If in doubt about the correct interpretation of instructions, contact your nearest Customer Service Centre to obtain the necessary clarifications.

STORING THE USE AND MAINTENANCE MANUAL

The Use and Maintenance Manual must be stored in its special pouch close to the machine, protected from liquids and anything else that could compromise its legibility.

ON CONSIGNMENT OF THE MACHINE

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

Any floor scrubbing machine can only work properly and effectively if used correctly and kept in full working order by performing the maintenance operations described in the attached documentation. 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.

IDENTIFICATION DATA


For technical assistance or to request replacement parts, always give the model, the version and the serial number (written on the relevant plate).


TECHNICAL DESCRIPTION

The **MxL Pro** is a floor scrubbing machine that can work on various types of floor and dirt thanks to the mechanical action of a brush and the chemical action of a water-detergent solution. As it advances, it collects the dirt removed, along with the detergent solution not absorbed by the flooring itself. **The machine must only be used for this purpose.**

INTENDED USE

This scrubbing machine was designed and built for the cleaning (scrubbing and drying) of smooth, hard flooring in the commercial, residential and industrial sectors by a qualified operator in proven safety conditions. The scrubbing machine is not suitable for cleaning rugs or carpets. It is only suitable for use in indoor (or at least covered) environments.

 **ATTENTION:** the machine is not suitable for use in the rain, or under water jets.

 **ATTENTION:** IT IS FORBIDDEN to use the machine for picking up dangerous dusts or inflammable liquids in places with an explosive atmosphere. In addition, it is not suitable as a means of transport for people or objects.

SAFETY

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

REGULATIONS

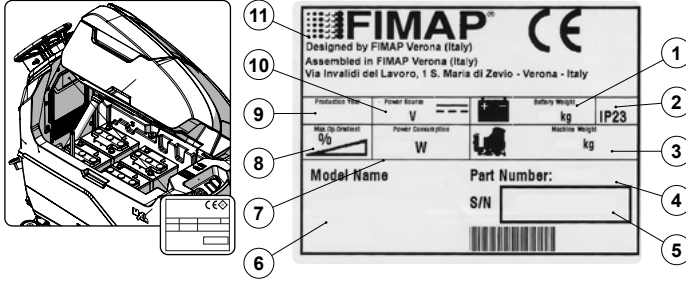
All references to forwards and backwards, front and rear, right and left indicated in this manual should be understood as referring to the operator in the driving position, with his/her hands on the control handlebars.

TARGET GROUP

This manual is written both for operators and for qualified machine maintenance technicians. Operators must not perform operations that should be carried out by qualified technicians. The manufacturer is not liable for damages resulting from failure to comply with this veto.

SERIAL NUMBER PLATE

The serial number plate is positioned underneath the electrical system control panel inside the machine. It indicates the general machine characteristics, in particular the serial number. The serial number is a very important piece of information and should always be provided together with any request for assistance or when purchasing spare parts. The serial number plate contains the following:



1. The maximum weight of the batteries that power the machine (expressed in kg).
2. The IP protection rating of the machine.
3. The gross weight of the machine (expressed in kg).
4. The machine ID code.
5. The machine serial number.
6. The machine ID name.
7. The nominal power consumed by the machine (expressed in W).
8. The maximum grade that the appliance can handle during work activities (expressed in %).
9. The year of machine manufacture.
10. The nominal voltage of the machine (expressed in V).
11. The commercial name of the machine, and the manufacturer's address.

TECHNICAL DATA

| TECHNICAL DATA | Unit of Measurement | MxL 65 Bt Pro | MxL 75 Bt Pro | MxL 85 Bt Pro | MxL 70 Bts Pro |
|---|----------------------|-------------------|-------------------|-------------------|-------------------|
| Rated machine power | W | 1710 | 1710 | 1710 | 1610 |
| Working capacity up to ⁽¹⁾ | m ² /h | 1638 | 1913 | 2100 | 1613 |
| Working width | mm | 655 | 765 | 840 | 645 |
| Squeegee width ⁽²⁾ | mm | 785 | 885 | 985 | 885 |
| Brush head brush diameter (number - diameter) | mm | 2 / Ø340 | 2 / Ø400 | 2 / Ø430 | - |
| Dimensions of cylindrical brush [number - (diameter - length)] | mm | - | - | - | 2 / (Ø180 / 616) |
| Number of brush head brush rotations | rpm | 140 | 140 | 140 | 550 |
| Brush head motor electrical properties [number / (voltage - rated power)] | V / W | 2 / (24 / 500) | 2 / (24 / 500) | 2 / (24 / 500) | 2 / (24 / 450) |
| Debris hopper internal volume | dm ³ | - | - | - | 8 |
| Weight exerted on the brush head | kg | 33÷55 | 35÷57 | 38÷60 | 15÷40 |
| Gradeability (weight ⁽⁵⁾) | % | - | - | - | - |
| Traction motor electrical properties [number / (voltage - rated power)] | V / W | 1 / (24 / 300) | 1 / (24 / 300) | 1 / (24 / 300) | 1 / (24 / 300) |
| Forward speed (with transfer program active) | Km/h | 4,9 | 4,9 | 4,9 | 4,9 |
| Suction motor electrical properties [number / (voltage - rated power)] | V / W | 1 / (24 / 422) | 1 / (24 / 422) | 1 / (24 / 422) | 1 / (24 / 422) |
| Vacuum on vacuum head | mBar | 112 | 112 | 112 | 112 |
| Maximum solution tank capacity | l | 80 | 80 | 80 | 80 |
| Maximum recovery tank capacity | l | 85 | 85 | 85 | 85 |
| Maximum solution tank capacity | L | 3 | 3 | 3 | 3 |
| Machine dimensions (length - width ⁽³⁾ - height) | mm | 1497 - 701 - 1093 | 1514 - 795 - 1093 | 1542 - 878 - 1093 | 1471 - 733 - 1093 |
| Battery compartment dimensions (length - width - useful height) | mm | 524 - 396 - 320 | 524 - 396 - 320 | 524 - 396 - 320 | 524 - 396 - 320 |
| Electrical properties of recommended battery [number / (voltage / electric charge)] | V / AhC ₅ | 4 / (6 / 180) | 4 / (6 / 180) | 4 / (6 / 180) | 4 / (6 / 180) |
| Maximum individual battery weight (recommended) | kg | 31 | 31 | 31 | 31 |
| Machine weight ⁽⁴⁾ | kg | 191 | 193 | 196 | 192 |
| Machine weight during transport ⁽⁵⁾ | kg | 315 | 317 | 320 | 316 |
| GVW | kg | 400 | 402 | 405 | 410 |
| Sound pressure level (ISO 11201) - L _{pa} | dB (A) | <70 | <70 | <70 | <70 |
| Uncertainty K _{pa} | dB (A) | 1,5 | 1,5 | 1,5 | 1,5 |
| Hand vibration level (ISO 5349) | m/s ² | <2,5 | <2,5 | <2,5 | <2,5 |
| Vibration measurement uncertainty | | - | - | - | - |

Remarks:

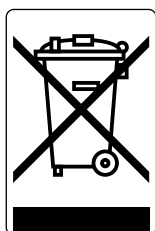
- (1) The working capacity is calculated using a forward speed of 2.5 Km/h.
- (2) The width of the squeegee refers to its maximum footprint.
- (3) The width is to be understood as being without the squeegee mounted on the machine.
- (4) Machine weight: refers to the overall machine weight without the batteries, and with both tanks empty.
- (5) Machine weight during transport: refers to the overall machine weight with the batteries, but with both tanks empty.

| TECHNICAL DATA | Unit of Measurement | MxL 65 Bt Pro | MxL 75 Bt Pro | MxL 85 Bt Pro | MxL 70 Bts Pro |
|---|----------------------|--------------------|--------------------|--------------------|---------------------|
| Rated machine power | W | 1710 | 1710 | 1710 | 1610 |
| Working capacity up to ⁽¹⁾ | sq. ft/h | 17631 | 20591 | 22604 | 17362 |
| Working width | in | 25,8 | 30,1 | 33,1 | 25,4 |
| Squeegee width ⁽²⁾ | in | 30,9 | 34,8 | 38,8 | 34,8 |
| Brush head brush diameter (number - diameter) | in | 2 / Ø13,39 | 2 / Ø15,75 | 2 / Ø16,93 | - |
| Dimensions of cylindrical brush [number - (diameter - length)] | in | - | - | - | 2 / (Ø7,09 / 24,25) |
| Number of brush head brush rotations | rpm | 140 | 140 | 140 | 550 |
| Brush head motor electrical properties [number / (voltage - rated power)] | V / W | 2 / (24 / 500) | 2 / (24 / 500) | 2 / (24 / 500) | 2 / (24 / 450) |
| Debris hopper internal volume | ft³ | - | - | - | 0,3 |
| Weight exerted on the brush head | lb | 73±121 | 77±126 | 84±132 | 33±88 |
| Gradeability (weight ⁽⁵⁾) | % | - | - | - | - |
| Traction motor electrical properties [number / (voltage - rated power)] | V / W | 1 / (24 / 300) | 1 / (24 / 300) | 1 / (24 / 300) | 1 / (24 / 300) |
| Forward speed (with transfer program active) | mph | 3 | 3 | 3 | 3 |
| Suction motor electrical properties [number / (voltage - rated power)] | V / W | 1 / (24 / 422) | 1 / (24 / 422) | 1 / (24 / 422) | 1 / (24 / 422) |
| Vacuum on vacuum head | mBar | 112 | 112 | 112 | 112 |
| Maximum solution tank capacity | l | 21 | 21 | 21 | 21 |
| Maximum recovery tank capacity | l | 22 | 22 | 22 | 22 |
| Maximum solution tank capacity | l | 0,8 | 0,8 | 0,8 | 0,8 |
| Machine dimensions (length - width ⁽³⁾ - height) | in | 59 - 28 - 43 | 60 - 31 - 43 | 61 - 35 - 43 | 58 - 29 - 43 |
| Battery compartment dimensions (length - width - useful height) | in | 20,6 - 15,6 - 12,6 | 20,6 - 15,6 - 12,6 | 20,6 - 15,6 - 12,6 | 20,6 - 15,6 - 12,6 |
| Electrical properties of recommended battery [number / (voltage / electric charge)] | V / AhC ₅ | 4 / (6 / 180) | 4 / (6 / 180) | 4 / (6 / 180) | 4 / (6 / 180) |
| Maximum individual battery weight (recommended) | lb | 68 | 68 | 68 | 68 |
| Machine weight ⁽⁴⁾ | lb | 421 | 426 | 432 | 423 |
| Machine weight during transport ⁽⁵⁾ | lb | 694 | 699 | 706 | 697 |
| GVW | lb | 882 | 886 | 893 | 904 |
| Sound pressure level (ISO 11201) - L _{pa} | dB (A) | <70 | <70 | <70 | <70 |
| Uncertainty K _{pa} | dB (A) | 1,5 | 1,5 | 1,5 | 1,5 |
| Hand vibration level (ISO 5349) | m/s ² | <2,5 | <2,5 | <2,5 | <2,5 |
| Vibration measurement uncertainty | | - | - | - | - |

Remarks:

- (1) The working capacity is calculated using a forward speed of 1.5 Km/h.
- (2) The width of the squeegee refers to its maximum footprint.
- (3) The width is to be understood as being without the squeegee mounted on the machine.
- (4) Machine weight: refers to the overall machine weight without the batteries, and with both tanks empty.
- (5) Machine weight during transport: refers to the overall machine weight with the batteries, but with both tanks empty.

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 out the following materials, then send them to the appropriate collection centres in accordance with the environmental hygiene regulations currently in force:

- Brushes
- Felt
- Electric and electronic parts*
- Batteries
- Plastic parts (tanks and handlebars)
- Metal parts (levers and frame)








(*) In particular, contact your distributor when scrapping electric and electronic parts.

SYMBOLS USED ON THE MACHINE









SYMBOLS PRESENT ON THE REGISTRATION PLATE

| | |
|---|---|
|  | Direct current symbol: Used on the machine's registration plate to indicate that it is powered by a DC power supply. |
|  | Battery symbol: Used on the machine's registration plate to indicate the maximum weight of the batteries used to power the machine (expressed in kg). The value refers to the batteries that the manufacturer offers. |
|  | Maximum gradient symbol: Used on the machine serial number plate, to indicate the maximum gradient that can be safely handled in working mode. |

SYMBOLS PRINTED ON THE MACHINE

| | |
|---|--|
|  | Solution tank drain pipe symbol: Located on the rear part of the machine, to identify the solution tank drainage point. |
|  | Recovery tank drainage hose symbol: Located on the rear part of the machine, to identify the recovery tank drainage tube. |
|  | Cap/filter position symbol: Located on the right-hand side of the machine to indicate the position of the detergent solution tank filter-cap. |
|  | Symbol of maximum temperature for filling the solution tank: Located on the front of the machine to indicate the maximum temperature of the water for filling the solution tank safely. |
|  | Squeegee body working position symbol: Located on the rear part of the machine, to indicate the squeegee control lever rotation direction for bringing the squeegee to its working position. |
|  | Symbol for squeegee body idle: Located on the rear part of the machine, to indicate the squeegee control lever rotation direction for bringing the squeegee to its idle position. |
|  | Battery connection symbol: Located on the front of the solution tank, to indicate how to connect the batteries in order to obtain a total voltage of 24V. |

LABELS USED ON THE MACHINE

| | |
|---|---|
|  | Label for detergent solution tap command: Located on the right-hand side of the machine, to identify the control knob of the detergent solution tap. |
|  | Label for brush head tilt adjustment: Located on the front of the machine, to identify the knob for adjusting the brush head body tilt. |
|  | Label indicating the need to read the Use and Maintenance Manual: Affixed to the machine in order to warn the operator to read the user and maintenance manual (this document) before using the machine for the first time. |
|  | Battery recharge hazard label: Located inside the machine (above the electric system carter), to warn the operator of the possible risk during battery recharging |
|  | Battery recharge warning label: Located inside the machine (above the electric system carter), to warn the operator when it's necessary to recharge the batteries. |
|  | Daily care warning label: Applied to the machine to remind the operator of the applicable procedures for properly caring for the machine itself. |
|  | Machine use warning label: Located on the rear of the machine, to warn the operator which substances cannot be removed with the machine. |
|  | Solution tank filter daily care warning label: Applied to the machine to remind the operator to clean the solution tank after each use. |



Moving brush hazard label:

Used on the machine to warn the operator not to place his/her hands near the moving brush.



Label warning about the risk of crushed hands:

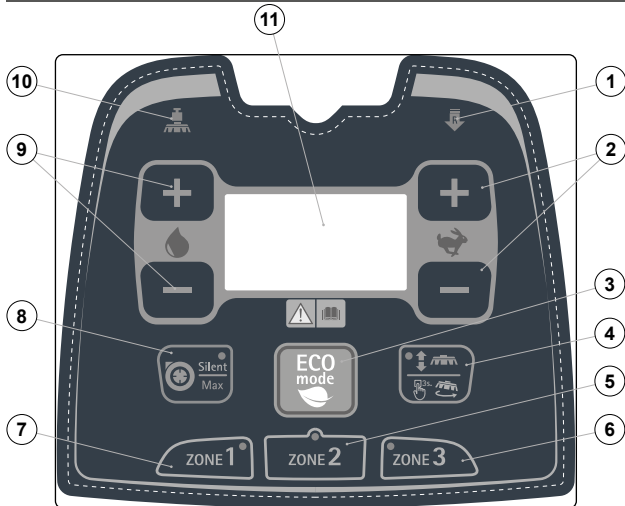
Indicates danger to hands due to crushing between two surfaces.



Main switch symbol:

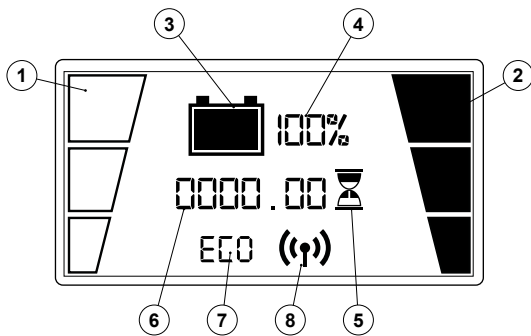
Located near the control panel, to indicate the main key switch.

SYMBOLS ON THE CONTROL PANEL



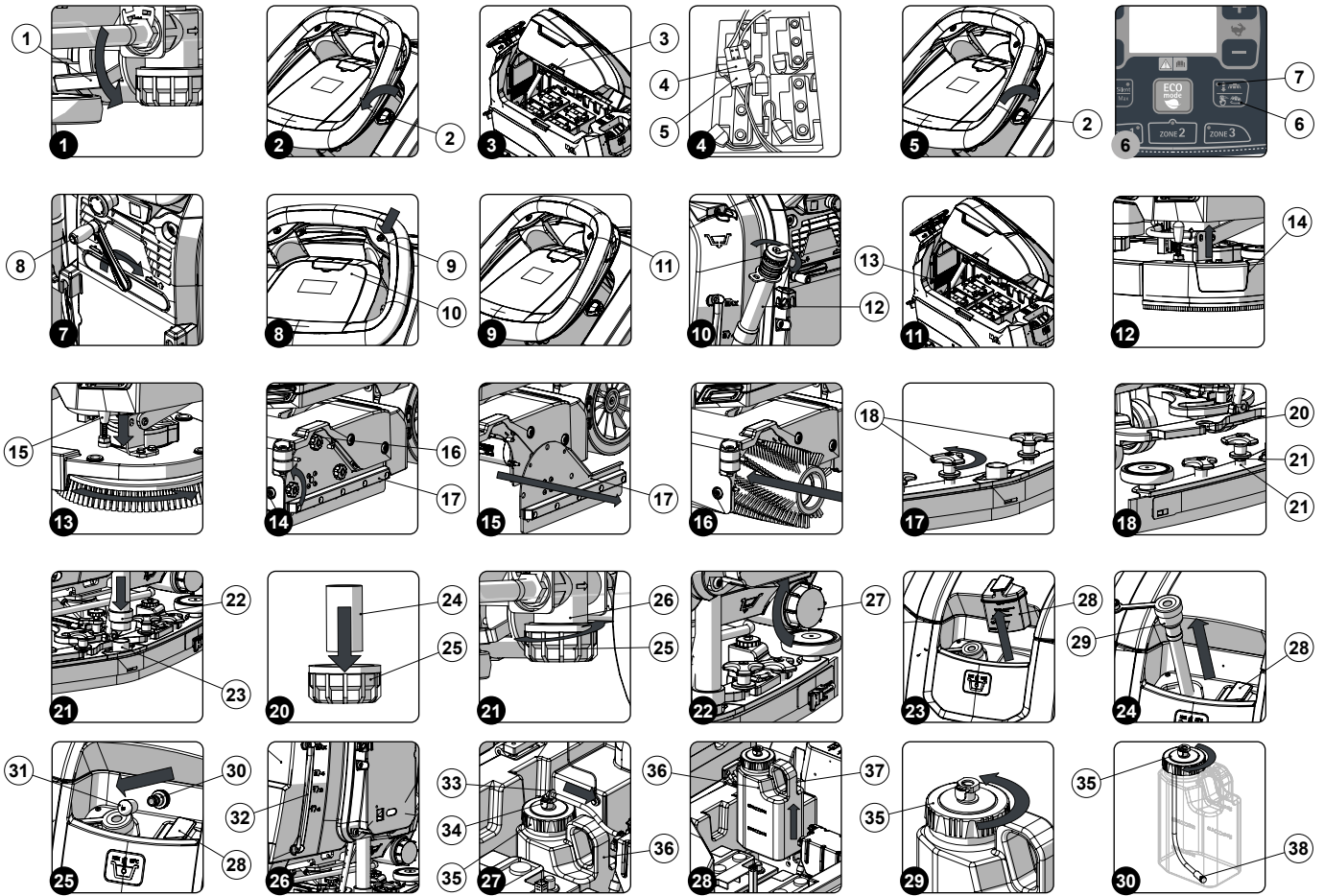
1. Reverse activation symbol.
2. Buttons for movement speed adjustment.
3. "ECO MODE" control button.
4. Brush head control button.
5. "AREA 2" program activation button.
6. "AREA 3" program activation button.
7. "AREA 1" program activation button.
8. "FNC" function activation-deactivation button.
9. Buttons for detergent solution adjustment.
10. Symbol for extra brush head pressure activation.
11. Control display.

SYMBOLS ON THE CONTROL DISPLAY



1. Detergent cleaning solution level indicator in the machine water circuit.
2. Indicator of the machine movement speed.
3. Indicator of the battery charge level.
4. Percentage value of the battery charge level.
5. Symbol indicating the hour meter is active.
6. Approximate hour meter value.
7. ECO-MODE active symbol.
8. Symbol indicating connection to the FFM system.

PREPARATION OF MACHINE



HANDLING THE PACKAGED MACHINE

The machine is contained in specific packaging, and since the packaging elements (plastic bags, staples, etc.) are a potential source of danger, they should not be left within the reach of children, disabled persons, etc.
 The machine's overall weight including packaging is 000Kg.
 The overall dimensions of the package are: width=765mm length=1460mm height=1270mm.

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

⚠ ATTENTION: Move the packaged product with handling equipment that complies with legal requirements regarding size and mass of the packaging.

HOW TO UNPACK THE MACHINE

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

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

i N.B.: Use the pictograms printed on the box as reference.


2. Remove the outer package.

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


3. Make sure the electric brake is engaged, then rotate the lever (1) in the direction of the arrow. The lever is located on the rear right-hand side of the machine (Fig.1).
4. Check that the machine is off; if this is not the case, set the main switch to position "0" by turning the key (2) a quarter turn anti-clockwise (Fig.2). Remove the key from the instrument panel.
5. Grip the handle (3) on the right-hand side of the recovery tank and turn the tank as far as it will go, until it reaches the maintenance position (Fig.3).
6. Connect the battery hopper connector (4) to the connector of the general system (5) (Fig. 4).

⚠ CAUTION: This process must be carried out by qualified personnel.


7. Grip the handle (3) and turn the recovery tank until it reaches the working position.
8. The machine is fixed to the pallet by means of chocks, which block the wheels and brush head; remove these chocks.
9. Insert the starter key and turn on the machine; turn the main switch to the "I" position by turning the key (2) a quarter turn clockwise (Fig.5).
10. Lift the brush head body and press the "BRUSH HEAD CONTROL" button (6) on the control panel (Fig.6).


 **N.B.:** as soon as the button (6) on the control panel is pressed, the green LED (7) ("BRUSH HEAD BODY WORK POSITION") will switch off (Fig.6).

11. Raise the squeegee body and turn the squeegee control lever (8) in the direction of the arrow (Fig.7). The lever is located on the back of the machine.
12. Press the "REVERSE ACTIVATION - DEACTIVATION" button (9) on the control handlebars (Fig.8).


 **N.B.:** As soon as the button (9) is pressed on the control panel, the "REVERSE ACTIVE" LED (10) on the control panel will be illuminated (Fig.8).

13. Activate the dead man's lever (11) underneath the control handlebars (Fig.9) to start moving the machine in reverse.
14. Use a ramp to bring the machine down from the pallet.

 **CAUTION:** do not fit the brush and the rear squeegee body before unloading the machine, and avoid any violent jolts to the brush head and squeegee support.

 **N.B.:** the ramp gradient must not be such as to cause damage to the machine as it comes down.


15. Turn off the machine and turn the key (2) a quarter turn anticlockwise (Fig.2). Remove the key from the instrument panel.
16. Grip the handle (3) and turn the recovery tank as far as it will go to the maintenance position (Fig.3).
17. Disconnect the pad battery connector (4) from the main system connector (5) (Fig.4).

 **ATTENTION:** This process must be carried out by qualified personnel.


18. Grip the handle (3) on the right-hand side of the recovery tank and turn the tank until it reaches the work position.

HOW TO MOVE THE MACHINE


To transport the machine safely, proceed as follows:


 **DANGER:** before starting any task, make sure the current regulations concerning the safe transport of dangerous substances are scrupulously observed.

1. Check to make sure that the solution tank and the recovery tank are empty. If this is not the case, empty them (see the sections titled "EMPTYING THE SOLUTION TANK" and "EMPTYING THE RECOVERY TANK").
2. Insert the key (2) into the main switch on the control panel. Bring the main switch to the "I" position by turning the key (2) a quarter turn clockwise (Fig.5).
3. Lift the brush head body and press the "BRUSH HEAD CONTROL" button (6) on the control panel (Fig.6).


 **N.B.:** as soon as the button (6) on the control panel is pressed, the green LED (7) ("BRUSH HEAD BODY WORK POSITION") will switch off (Fig.6).

4. Raise the squeegee body and turn the squeegee control lever (8) in the direction of the arrow (Fig.7). The lever is located on the back of the machine.
5. When you push the dead man's lever (11) (Fig.9), the machine will begin to move.
6. Use a ramp to move the machine up onto the transport vehicle.

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

 **N.B.:** the ramp gradient must not be such as to cause damage to the machine as it goes up.

7. Position the machine on the means of transport, and set the main switch to the "0" position by turning the key (2) a quarter turn anticlockwise (Fig.2). Remove the key from the main switch.
8. Grip the handle (3) and raise the recovery tank to the maintenance position (Fig.3).
9. Disconnect the battery connector (4) from the main system connector of the machine (5) (Fig.4).
10. Grip the handle (3) and lower the recovery tank to its working position.

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

MACHINE SAFETY

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

1. Make sure the electric brake is engaged, then rotate the lever (1) in the direction of the arrow. The lever is located on the rear right-hand side of the machine (**Fig.1**).
2. Make sure the recovery tank is empty. If this is not the case, empty it using the tube (12) on the rear left-hand side of the machine (**Fig.10**) (see "[EMPTYING THE RECOVERY TANK](#)").
3. Lift the brush head body and press the "BRUSH HEAD CONTROL" button (6) on the control panel (**Fig.6**).



N.B.: as soon as the button (6) on the control panel is pressed, the green LED (7) ("BRUSH HEAD BODY WORK POSITION") will switch off (**Fig.6**).

4. Raise the squeegee body and turn the squeegee control lever (8) in the direction of the arrow (**Fig.7**). The lever is located on the back of the machine.
5. Turn off the machine and turn the key (2) a quarter turn anticlockwise (**Fig.2**). Remove the key from the instrument panel.
6. Grip the handle (3) on the right-hand side of the recovery tank (**Fig.3**) and turn the tank as far as it will go, until it reaches the maintenance position.
7. Disconnect the battery connector (4) from the main system connector of the machine (5) (**Fig.4**).



ATTENTION: This process must be carried out by qualified personnel.

8. Grip the handle (3) on the right-hand side of the recovery tank and turn the tank until it reaches the work position.

TYPE OF BATTERY TO BE USED

Power to the machine must be supplied by two sealed traction batteries with gas recombination or gel technology. The batteries must meet the requirements laid out in the norms: CEI EN 60254-1:2005-12 (CEI 21-5) + CEI EN 60254-2:2008-06 (CEI 21-7). In order to ensure good operating performance, it is recommended to use four 6V MFP 180 Ah/C5 batteries.

BATTERY MAINTENANCE AND DISPOSAL

For battery maintenance and recharging, respect the instructions provided by the battery manufacturer. When the batteries reach the end of their service life, they must be disconnected by specialized and properly trained personnel, and must be subsequently removed from the battery compartment using suitable lifting devices.



N.B.: dead batteries are classified as dangerous waste and as such must be delivered to an authorised body for disposal.

INSERTING THE BATTERIES IN THE MACHINE

To fit the batteries inside the machine, contact an FIMAP assistance centre technician. The batteries should be connected so as to obtain a total voltage of 24V.



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

RECHARGING THE BATTERIES

The batteries must be charged prior to first use, and whenever they no longer provide sufficient power.



ATTENTION: to avoid any permanent damage to the batteries, it is essential to avoid their complete discharge; begin recharging them within a few minutes of noting the "discharged batteries" signal.



ATTENTION: never leave the batteries completely discharged, even if the device is not being used.

1. Bring the machine to the battery recharging area.
2. Make sure the machine is in a safe condition (read "[MACHINE SAFETY](#)").



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



ATTENTION: the room used to recharge the batteries must be adequately ventilated to prevent the accumulation of gases that leak from batteries.

3. Grip the handle (3) and raise the recovery tank to the maintenance position (**Fig.3**).

To recharge the batteries without the built-in battery charger, proceed as follows:





ATTENTION: the following operations must be carried out by qualified personnel. An incorrect connection of the connector may cause problems with machine functioning.

- Connect the external battery charger cable to the battery connector.




NOTE: the coupling connector of the battery charger is consigned inside the bag containing this instruction booklet, and must be assembled on the cables of the battery charger as indicated in the instructions.

 **ATTENTION:** Before connecting the batteries to the battery charger, make sure that this is suitable for the batteries being used.


 **NOTE:** Carefully read the Use and Maintenance Manual of the battery charger to be used before carrying out the battery charge cycle.


- Grasp the handle (3) and turn to the charging position; the lower part of the recovery tank must be resting on the stop (13) (**Fig.11**).


 **CAUTION:** keep the recovery tank open for the duration of the battery recharging cycle to allow gas fumes to escape.


- Once the recharge cycle has been completed, disconnect the battery charger's cable from the battery connector.
- Connect the electrical system connector to the battery connector.
- Grip the handle (3) and turn the recovery tank to its working position.

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


 **ATTENTION:** the following operations must be carried out by qualified personnel. An incorrect connection of the connector may cause problems with machine functioning.

 **NOTE:** Carefully read the Use and Maintenance Manual of the battery charger delivered with the machine before carrying out the battery charge cycle.

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

 **NOTE:** The charger power cable is delivered inside the bag containing this instruction booklet.

- Connect the battery charger power supply cable to the cable on the battery charger itself.
- Plug the battery charger cable into the mains socket.
- Grasp the handle (3) and turn to the charging position; the lower part of the recovery tank must be resting on the stop (13) (**Fig.11**).

 **CAUTION:** keep the recovery tank open for the duration of the battery recharging cycle to allow gas fumes to escape.

- When the recharge cycle is complete, disconnect the battery charger power supply cable from the mains.
- Disconnect the battery charger power supply cable from the cable on the battery charger itself.
- Grip the handle (3) and turn the recovery tank to its working position.


ASSEMBLING THE BRUSH (SCRUBBING VERSION)

To assemble the brushes to bush head body, which for reasons of packaging are supplied dismantled from the machine, proceed as follows:

1. Make sure the machine is in a safe condition (read "[MACHINE SAFETY](#)").

 **CAUTION:** users are advised to always wear protective gloves, to avoid the risk of serious injury to hands.

2. With the brush head in the raised position, remove the brush head splash guards (14) (**Fig.12**).
3. Insert the brush into the flange on the brush head body, press the brush-holder plate retainer (15) and simultaneously rotate the brush in the direction shown in the image (**Fig.13**).

 **ATTENTION:** **Fig.13** shows the rotation direction of the left-hand brush, rotate in the opposite direction for the right-hand brush.

4. Repeat the operations completed for the right-hand front brush as well.


ASSEMBLING THE BRUSH (SWEEPING VERSION)

To assemble the brushes to bush head body, which for reasons of packaging are supplied dismantled from the machine, proceed as follows:

1. Perform the procedure for securing the machine (see the section titled "[SECURING THE MACHINE](#)").

 **CAUTION:** users are advised to always wear protective gloves, to avoid the risk of serious injury to hands.

2. With the brush head raised from the floor, turn the knobs (16) that hold the left lateral carter (17) in place anti-clockwise (**Fig.14**).
3. Remove the left lateral carter (17) (**Fig.15**).
4. Insert the brush into the tunnel (**Fig.16**), taking care to ensure that the gearmotor shaft enters the slit in the brush itself.
5. Repeat the previously described operations for the right-hand side as well.

 **N.B.:** In order to be installed correctly, the brushes must form an X when viewed from above in the forward direction of movement.

ASSEMBLING THE SQUEEGEE BODY

For packaging reasons, the squeegee body comes disassembled from the machine. In order to mount it on the squeegee support, do the following:

1. Make sure the machine is in a safe condition (read "[MACHINE SAFETY](#)").



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

2. Unscrew the knobs (18) in the squeegee body pre-assembly (**Fig.17**).
3. First of all, insert the left-hand pin (21) on the squeegee body in the left slit (20) in the squeegee support (**Fig.18**), so that the bushing (21) adheres to the walls of the slit.
4. Repeat the same operation for the right pin.
5. Tighten the knobs (18) to fix the squeegee body to the support.
6. Insert the vacuum tube (22) into the sleeve (23) in the squeegee body (**Fig.21**).



N.B.: the tube must be positioned behind the squeegee lifting chain.



N.B.: Although the squeegee comes pre-adjusted, it is nevertheless recommended to read the section entitled "[ADJUSTING THE SQUEEGEE BODY RUBBER BLADES](#)".

INSERTING WATER SYSTEM FILTER

Before using the machine for the first time the water system filter needs to be reset, for shipping reasons the filter cartridge and the cap have been removed. To insert the filter cartridge in the water system filter body proceed as follows:

1. Take the machine to the maintenance area.
2. Make sure the machine has been secured (see the section titled "[SECURING THE MACHINE](#)").



CAUTION: users are advised to always wear protective gloves, to avoid the risk of serious injury to hands.

3. Insert the filter cartridge (24) in the housing on the cap (25) (**Fig.20**).



N.B.: The O-ring gasket in the filter cartridge should be inserted into its seat in the cap.

4. Go to the right-hand side of the machine and screw the cap (25) onto the body of the detergent solution filter (26) (**Fig.21**).

FILLING THE SOLUTION TANK WITH WATER

Before filling the solution tank, carry out the following steps:

1. Take the machine to the usual place for filling the solution tank.
2. Perform the procedure for securing the machine (see the section titled "[SECURING THE MACHINE](#)").
3. Check the solution tank drainage cap (27) (on the rear right-hand side of the machine) is tight. If this is not the case, turn it clockwise (**Fig.22**).
4. Check the water system filter cap (25) (on the rear right-hand side of the machine) is tight. If this is not the case, turn it clockwise (**Fig.21**).

The solution tank can be filled with water in three different ways:

- Remove the cap-measuring device (28) (**Fig. 23**) and fill the solution tank by means of a rubber hose or a bucket.
 - Using the filler hose (29) (**Fig.24**), which supports the water hose on its own, remember to remove the cap-measuring device (28) in order to allow the air to vent properly.
 - Using the optional automatic clean water refill system, connect the female connector on the tube to the male connector (30) on the machine (**Fig. 25**); before connecting the tube, remember to remove the cap (31) and the cap-measuring device (28) to enable the air to be vented.
5. Fill with clean water, at a temperature not higher than 50°C and not lower than 10°C. The amount inside the tank can be seen by means of the level tube (32) (**Fig.26**) on the rear of the machine.

DETERGENT SOLUTION (VERSIONS WITHOUT FSS)

After filling the solution tank with clean water add the liquid detergent to the tank in the concentration and manner indicated on the detergent manufacturer's label. To prevent the formation of an excessive amount of foam that could damage the vacuum motor, use the minimum percentage of detergent required.



CAUTION: protective gloves should always be worn before handling detergents or acidic or alkaline solutions, to avoid serious injury to the hands.



CAUTION: Always use detergents which have a manufacturer's label that indicates that they are suitable for use with floor scrubbing machines. Do not use acid or alkaline products or solvents without this indication.



ATTENTION: Acid or alkaline maintenance detergent tank be used with pH values between 4 and 10 and that do not contain: oxidising agents, chlorine or bromine, formaldehyde, mineral solvents. The detergents used must be suitable for use with scrubbing machines.

CAUTION: always use low-foam detergent. To avoid the production of foam, put a minimum quantity of anti-foam liquid in the recovery tank before starting to clean. Do not use pure acids.

i N.B.: to make it easier to measure the detergent on the cap/measuring device, there are notches indicating the detergent percentage quantities that can be used. The notches range from a minimum of 0.1% to a maximum of 0.5%.

FILLING THE DETERGENT CANISTER (VERSIONS WITH FSS)

After filling the solution tank with clean water, you must fill the detergent canister. Before filling the canister, carry out the following steps:

1. Take the machine to the usual place for filling the solution tank.
2. Perform the procedure for securing the machine (see the section titled "[SECURING THE MACHINE](#)").
3. Grip the handle (3) on the right-hand side of the recovery tank (**Fig.3**) and turn the tank as far as it will go, until it reaches the maintenance position.
4. Disconnect the male insert (33) from the female insert (34) in the cap (35) of the detergent canister (36) (**Fig.27**).

i ATTENTION: before pulling on the male insert, push the lever on the female insert.

5. Gripping the handle (37) on the detergent canister (36), remove the canister from the compartment in the solution tank (**Fig.28**).
6. Remove the cap (35) from the detergent canister (**Fig.29**).
7. Fill the canister with the required detergent, as indicated on the label supplied with the machine.

CAUTION: protective gloves should always be worn before handling detergents or acidic or alkaline solutions, to avoid serious injury to the hands.

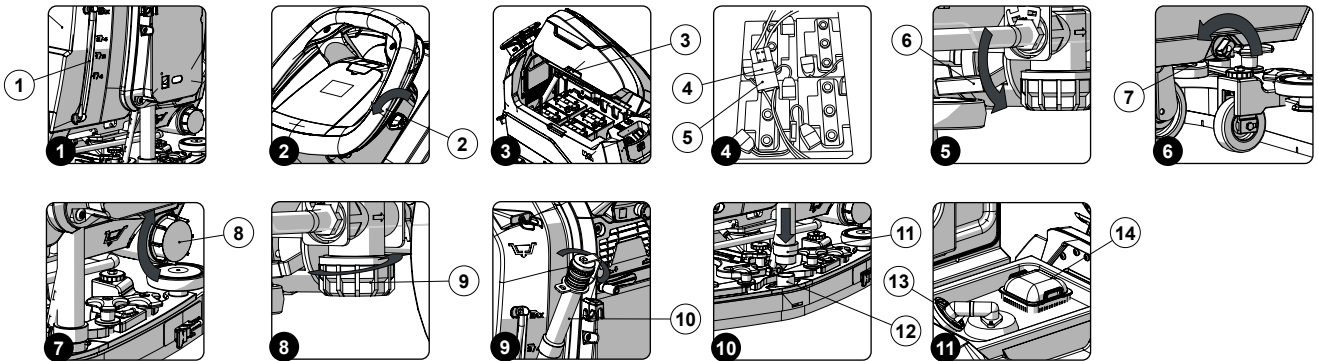
WARNING: always use low-foam detergent. To avoid the production of foam, put a minimum quantity of anti-foam liquid in the recovery tank before starting to clean. Do not use pure acids.

WARNING: Always use detergents which have a manufacturer's label that indicates that they are suitable for use with floor scrubbing machines. Do not use acid or alkaline products or solvents without this indication.

i ATTENTION: the dosing system is suitable for frequent maintenance cleaning. Acid or alkaline maintenance detergent tank be used with pH values between 4 and 10 and that do not contain: oxidising agents, chlorine or bromine, formaldehyde, mineral solvents. The detergents used must be suitable for use with scrubbing machines. Wash the circuit with water after use if the system is not used daily. The system can be excluded. In case of sporadic use of detergents with pH between 1-3 or 11-14, use the floor scrubbing machine in the traditional way by adding the detergent in the clean water tank and excluding the dosing circuit.

8. Ensure that you tighten the cap (35) properly to avoid any leakage of liquid while working. Make sure the detergent suction filter (38) is correctly positioned on the bottom of the canister (**Fig.30**).
9. Grip the canister handle (37) to replace the canister (36) in its compartment inside the solution tank.
10. Connect the male insert (33) to the female insert (34) in the cap (35) of the detergent canister (36).
11. Grip the handle (3) on the right-hand side of the recovery tank and turn the tank as far as it will go, until it reaches the work position.

PREPARING TO WORK



Before beginning to work, it is necessary to:

1. Make sure the recovery tank is empty. If this is not the case, empty it (read [“EMPTYING THE RECOVERY TANK”](#)).
2. Check that the quantity of detergent solution present in the solution tank is suitable for the type of work to be carried out. If this is not the case, fill the solution tank (see [“THE SOLUTION TANK WITH WATER”](#) and [“DETERGENT SOLUTION \(VERSIONS WITHOUT FSS\)”](#) or [“FILLING THE DETERGENT CANISTER \(VERSIONS WITH FSS\)”](#)). Check the level tube (1) in the rear left-hand part of the machine (**Fig.1**).
3. Check the rubber squeegee blades are in good working condition. If they aren't, replace them (see [“REPLACING THE SQUEEGEE BODY RUBBER BLADES”](#)).
4. Check that the condition of the brush is suitable for work; if this is not the case, replace it (see [“REPLACING THE BRUSH HEAD BRUSH \(SCRUBBING VERSION\)”](#) or [“REPLACING THE BRUSH HEAD BRUSH \(SWEEPING VERSION\)”](#)).
5. Check that the machine is off; if this is not the case, turn the key (2) a quarter turn anti-clockwise (**Fig.2**) . Remove the key from the instrument panel.
6. Grip the handle (3) on the right-hand side of the recovery tank (**Fig.3**) and turn the tank as far as it will go, until it reaches the maintenance position.
7. Connect the main system connector (4) to the battery connector (5) (**Fig.4**).

⚠ ATTENTION: This process must be carried out by qualified personnel.

8. Grip the handle (3) on the right-hand side of the recovery tank and turn the tank until it reaches the work position.
9. Make sure the electronic brake is engaged. If this is not the case, turn the lever (6) in the direction of the arrow. The traction gearmotor is located on the right-hand side of the machine (**Fig.5**).
10. Check the water tap is fully open - the water adjustment knob (7) must be turned fully in the direction shown by the arrow (**Fig.6**).
11. Make sure the solution tank drainage cap (8) is closed. If it isn't, close it (**Fig.7**).
12. Make sure the water filter cap (9) is closed. If it isn't, close it (**Fig.8**).
13. Make sure the cap of the recovery tank drainage tube (10) is closed. If it isn't, close it (**Fig.9**).
14. Make sure the vacuum tube (11) is correctly connected to the sleeve (12) in the squeegee body. If it isn't, connect it (**Fig.10**).
15. Make sure the suction motor filter (13) is correctly connected and is clean (**Fig.11**). If it isn't, clean it (see [“CLEANING THE RECOVERY TANK FILTERS”](#)).
16. Make sure the filter basin (14) is correctly connected and is clean (**Fig.11**). If it isn't, clean it (see [“CLEANING THE RECOVERY TANK FILTERS”](#)).

STARTING WORK



The machine can be used in the following work modes:

- ECO-MODE, read the section "[ECO-MODE](#)";
- MANUAL MODE, read the section "[MANUAL MODE](#)";
- PROGRAM ZONE, read the section "[PROGRAM ZONE MODE](#)".

As an example, we will look at the program mode. To begin working in this mode, proceed as follows:

1. Make all the checks listed in "[PREPARING TO WORK](#)".
2. Go to the driving position, behind the machine.
3. Turn on the machine and turn the key (1) a quarter turn clockwise (**Fig.1**).
4. When the display comes on, three screens appear in sequence:
 - The first screen displayed indicates the logo of the manufacturer of the machine.
 - The second screen displayed indicates the name of the machine.
 - The third screen displayed (**Fig.2**) indicates the characteristics of the machine's programming.
 - The fourth screen displays (**Fig.3**) identifies the work program.
5. Select the desired work area, press one of the three "ZONE" buttons (2) on the control panel (read paragraph "[PROGRAM ZONE MODE](#)") (**Fig.4**).

i N.B.: When the machine is switched on with the "TRANSFER" working program active, pressing one of the "ZONE" keys (2) automatically activates the "SCRUBBING WITHOUT DRYING" program.

6. Lower the squeegee body and turn the squeegee control lever (3) in the direction of the arrow (**Fig.5**). The lever is located on the back of the machine.
7. When the dead man's lever (4) is pressed, the machine will begin to move. The lever is located underneath the control handlebars (**Fig.6**).

i **N.B.:** the gearmotor will only begin functioning, and the solenoid valve will only begin dispensing detergent solution, when the brush head body is in its working position.

8. During the first few metres, check that the detergent solution coming out is suitable for the task in hand. If it isn't, adjust it after reading the section "[REGULATING THE DETERGENT SOLUTION](#)".

The machine will now begin to work with full efficiency until the battery is flat or until the detergent solution has finished. During the first few metres, check that there is sufficient solution and that the squeegee is drying correctly.

i **N.B.:** If the dead man's lever is released during the scrubbing with drying operation, the brush motor and the solenoid valve will be deactivated. The suction motor will continue working until the squeegee control lever is rotated to bring it back to its idle position.

i **N.B.:** if the squeegee body is raised during the scrubbing and drying operation, the suction motor will continue working at maximum speed for a certain period of time, and then switch off. This ensures that all the liquid in the vacuum tube is eliminated.

i **N.B.:** when filling the solution tank, it is good practice to empty the recovery tank using the special drainage hose.

HOURLY METER

The machine control panel contains the control display, which shows the total usage time (5) (**Fig. 3**). The numbers before the "hourglass" symbol identify tenths of an hour (a tenth of an hour corresponds to six minutes), while the other numbers identify the hours.

BATTERY CHARGE LEVEL INDICATOR

The machine instrument panel contains the control display. At the top right of the work screen, there is a graphic symbol (6) (**Fig. 3**) representing the battery charge level indicator. The indicator is composed of 5 charge levels, each of which represents about 20% of residual charge. With a residual charge of 20% the graphic symbol starts to flash and after a few seconds it will appear in larger dimensions in the middle of the screen, under these conditions take the machine to the usual place to charge the batteries.

i **ATTENTION:** a few seconds after the battery charge level reaches 20%, the brush motor switches off automatically. With the remaining charge it is still possible, however, to complete the drying process before recharging

i **ATTENTION:** a few seconds after the battery charge level reaches 10%, the suction motor switches off automatically. With the remaining charge, it is still possible, however, to move the machine to the location designated for its recharging

SCRUBBING WITH DRYING

To perform a scrubbing and drying program, proceed as follows:

1. Make all the checks listed in "[PREPARING TO WORK](#)".
2. Go to the driving position, behind the machine.
3. Turn on the machine and turn the key (1) a quarter turn clockwise (**Fig.1**).
4. Lower the brush head body, press the "BRUSH HEAD CONTROL" button (7) on the control panel (**Fig.4**).

i **N.B.:** As soon as the button (7) on the control panel is pressed, the green LED ("BRUSH HEAD BODY WORK POSITION") (8) will switch on (**Fig.4**).

5. Lower the squeegee body and turn the squeegee control lever (3) in the direction of the arrow (**Fig.5**). The lever is located on the back of the machine.
6. When the dead man's lever (4) is pressed, the machine will begin to move. The lever is located underneath the control handlebars (**Fig.6**).

i **N.B.:** the gearmotor will only begin functioning, and the solenoid valve will only begin dispensing detergent solution, when the brush head body is in its working position.

7. During the first few metres, check that the detergent solution coming out is suitable for the task in hand. If it isn't, adjust it after reading the section "[REGULATING THE DETERGENT SOLUTION](#)".

SCRUBBING WITHOUT DRYING

To perform a scrubbing only program, proceed as follows:

1. Make all the checks listed in "[PREPARING TO WORK](#)".
2. Go to the driving position, behind the machine.
3. Turn on the machine and turn the key (1) a quarter turn clockwise (**Fig.1**).
4. Lower the brush head body, press the "BRUSH HEAD CONTROL" button (7) on the control panel (**Fig.4**).

i **N.B.:** As soon as the button (7) on the control panel is pressed, the green LED ("BRUSH HEAD BODY WORK POSITION") (8) will switch on (**Fig.4**).

5. When the dead man's lever (4) is pressed, the machine will begin to move. The lever is located underneath the control handlebars (**Fig.6**).

i **N.B.:** the gearmotor will only begin functioning, and the solenoid valve will only begin dispensing detergent solution, when the brush head body is in its working position.

6. During the first few metres, check that the detergent solution coming out is suitable for the task in hand. If it isn't, adjust it after reading the section "[REGULATING THE DETERGENT SOLUTION](#)".

DRYING

To perform a drying program, proceed as follows:

1. Make all the checks listed in "[PREPARING TO WORK](#)".
2. Go to the driving position, behind the machine.
3. Turn on the machine and turn the key (1) a quarter turn clockwise (**Fig.1**).
4. Lower the squeegee body and turn the squeegee control lever (3) in the direction of the arrow (**Fig.5**). The lever is located on the back of the machine.
5. When the dead man's lever (4) is pressed, the machine will begin to move. The lever is located underneath the control handlebars (**Fig.6**).

i **N.B.:** the suction motor will only begin to work when the squeegee body is in contact with the floor.



The drying without scrubbing operation should only be carried out if the machine was previously used to carry out a scrubbing without drying operation.

ECO MODE

Eco Mode sets a working configuration that reduces noise and saves energy, water and detergent.

The ECO-MODE button (9) (**Fig.4**) is located in the centre of the control panel. Press this to activate the "ECO-MODE" program, which provides the best possible performance in terms of consumption and cleaning.

To activate the ECO-MODE program, proceed as follows:

1. Go to the driving position, behind the machine.
2. Turn on the machine and turn the key (1) a quarter turn clockwise (**Fig.1**).
3. Select the ECO-MODE working program with the button (9) at the centre of the control panel (**Fig.4**).

i **N.B.:** As soon as the button (9) in the control display is pressed, the "ECO MODE ACTIVE" symbol (21) will appear (**Fig.3**).

i **N.B.:** When the machine is switched on with the brush head and the squeegee body in the rest position, if the ECO-MODE button (9) is pressed, the "SCRUBBING WITHOUT DRYING" working program is automatically activated.

i **N.B.:** Changing one of the parameters connected to the work, such as the delivery of the detergent solution, will switch the working program from ECO-MODE to MANUAL mode.

MANUAL MODE

MANUAL MODE sets a working configuration that enables the parameters to be adjusted in accordance with the type of dirt to be cleaned.

To change from the "ECO MODE" or from the "PROGRAM ZONE" mode to the "MANUAL MODE", simply change one of the following parameters:

- Quantity of detergent solution present in the machine's water system (read paragraph "[ADJUSTMENT OF THE DETERGENT SOLUTION FLOW](#)").
- Machine's forward speed level (read paragraph "[REGULATING THE FORWARD SPEED](#)").
- Suction motor performance level (read paragraph "[SILENT-MAX FUNCTION](#)").
- Pressure level exerted on the brush head (read paragraph "[EXTRA BRUSH HEAD PRESSURE FUNCTION](#)").

i **N.B.:** When the "MANUAL MODE" is active in the control display, the symbol (21) relating to the "ECO MODE ACTIVE" function will disappear (**Fig.3**).

PROGRAM ZONE MODE

The PROGRAM ZONE mode enables the work configuration to be automatically set with the working parameters previously chosen, in accordance with the type of dirt to be cleaned.

i **N.B.:** To activate a working program, press the ZONE button (2) on the control panel (**Fig.4**). When the program is active, the corresponding LED will be illuminated.

i **N.B.:** To save a new work configuration, press and hold the "ZONE" button that you want to associate with the configuration for more than 3 seconds. The LED associated with the button will flash three times to confirm that the configuration has been saved.

ADJUSTMENT OF THE DETERGENT SOLUTION FLOW

To adjust the flow of detergent solution during work, proceed as follows:

1. During the first few working meters check that the amount of solution is sufficient to wet the floor, but not excessive to exit the splash guard.
2. If the amount of solution that comes out is not right, use the "+" and "-" buttons (11) on the control panel to adjust it (Fig.4).

i **N.B.:** the flow of detergent solution onto the brush can be adjusted to four levels, from 0 to 3. The level can be seen with the symbol (12) on the control display (Fig.3).

i **N.B.:** If the flow is set to 0, there is no emission of detergent solution.

REGULATING THE FORWARD SPEED

To adjust the forward speed during work, proceed as follows:

During the first few metres, check that the forward speed is adequate to the grip conditions.

If the forward speed is not suitable, you can adjust this using the "+" and "-" buttons (13) on the control panel (Fig.4).

i **N.B.:** The forward speed can be adjusted to three levels from 1 to 3. The level can be seen with the symbol (14) on the control display (Fig. 3).

i **N.B.:** the machine forward speed can also be adjusted by regulating the potentiometer in the control panel. To do this, press the dead man's lever (4) (Fig.6) to the required degree. The more you press, the higher the speed (within the limits of the level selected beforehand).

REVERSE GEAR

This machine is equipped with electronic traction control. To reverse, proceed as follows:

1. Lift the brush head body, press the "BRUSH HEAD COMMAND" button (7) on the control panel (Fig.4).

i **N.B.:** as soon as the button (7) on the control panel is pressed, the green LED (8) ("BRUSH HEAD BODY WORK POSITION") will switch off (Fig.4).

i **N.B.:** if the brush head body is left in contact with the floor, the gearmotor will continue functioning but the solenoid valve will stop dispensing detergent solution on the brush.

2. Raise the squeegee body and turn the squeegee control lever (3) in the direction of the arrow (Fig.8); the lever is located on the back of the machine.
3. Press the "REVERSE ACTIVATION - DEACTIVATION" button (15) on the control handlebars (Fig.9).

i **N.B.:** As soon as the button (15) on the control panel is pressed, the green LED (16) ("REVERSE ACTIVE") will turn on (Fig.4).

4. Activate the dead man's lever (4) underneath the control handlebars (Fig.6) to start moving the machine in reverse.

⚠ **WARNING:** the reverse speed is lower than the forward speed to comply with current health and safety standards. If the potentiometer is adjusted while reversing, the adjustment of the forward speed will be automatically changed.

⚠ **WARNING:** It is impossible to reverse if the squeegee body touches the floor. In order to reverse, lift the squeegee body from the floor using the relevant lever on the back of the machine.

i **N.B.:** to disable reverse movement, press the button (15) on the control handlebars again.

EXTRA BRUSH HEAD PRESSURE FUNCTION

This machine can increase the pressure exerted on the brush during the work cycle. To do this:

1. Make sure the brush head body is in contact with the floor. If this is not the case, press the "BRUSH HEAD CONTROL" button (7) on the control panel (Fig.4).


i **N.B.:** as soon as the button (7) on the control panel is pressed, the green LED (8) ("BRUSH HEAD BODY WORK POSITION") will switch on (Fig.4).

2. Press the "EXTRA BRUSH HEAD PRESSURE" button (17) on the control panel (Fig.10).

SILENT-MAX FUNCTION

This machine has a SILENT-MAX function for reducing the noise generated by the suction motor.

To activate or deactivate this function, simply press the button (21) on the instrument panel for at least three seconds (**Fig.4**).


 **N.B.:** when the silent-max function is active, the relative LED (20) will light up on the control panel (**Fig.4**).


DETERGENT SOLUTION RECYCLING SYSTEM (FLR VERSIONS)

Upon request the machine can be fitted with a system that allows the detergent solution to be recycled so that productivity can be increased, since the number of stops needed to empty and fill the tanks is reduced. As a result less water and detergent are used, thereby making the operator safer, who comes into contact with the chemical products less frequently, and the operation is more environmentally friendly.

To start it do as follows.

1. With the machine running, press the FLR SYSTEM ACTIVATION-DEACTIVATION switch (21) (**Fig.11**).

 **N.B.:** if the LED on the switch (21) is on, the FLR system is active; if the LED is off, the FLR system is deactivated.

 **N.B.:** the FLR system activates when the electric pump in the machine's water system starts.

 **N.B.:** if you want to deactivate the FLR system, press the switch (21) again.


2. The machine will continue working until there is no more any detergent solution in both tanks.


AUTOMATIC DETERGENT DOSING SYSTEM (FSS VERSIONS)

Upon request, the machine can be fitted with a system that measures out the detergent separately from the water in the solution tank.


To start it do as follows.

1. With the machine running, press the FSS SYSTEM ACTIVATION-DEACTIVATION switch (21) (**Fig.11**).

 **N.B.:** if the LED on the switch (21) is on, the FSS system is active; if the LED is off, the FSS system is deactivated.

 **N.B.:** the FSS system activates when the electric pump in the machine's water system starts.


 **N.B.:** if you want to deactivate the FSS system, press the switch (21) again.

 **N.B.:** the amount of detergent present in the washing solution dispensed by the machine is proportional (in a percentage defined by a parameter preset in the machine) to the water flow rate present in the water circuit of the machine.

VACUUM WAND KIT

On request, the machine can be equipped with the liquid vacuum wand kit; in order to use this, proceed as follows:

1. Make sure that the brush head body is in the rest position; if this is not the case, press the "BRUSH HEAD CONTROL" button (7) on the control panel (**Fig.4**).

 **N.B.:** When the brush head body is in the rest position, the green LED ("BRUSH HEAD BODY WORK POSITION") (8) will switch off (**Fig.4**).

2. Turn off, turn the key (1) a quarter turn anticlockwise (**Fig.12**).

3. Lower the squeegee body and turn the squeegee control lever (3) in the direction of the arrow (**Fig.5**). The lever is located on the back of the machine.

4. Open the storage compartment by turning the handle (22) (**Fig.13**).

5. Remove all the vacuum kit components from the storage compartment.

6. Assemble the steel extension tube (**Fig.14**).

7. Insert the vacuum brush (24) into the extension tube (23) (**Fig.15**).


8. Connect the wand kit vacuum tube (25) to the extension tube (26) (**Fig.16**).


9. Remove the squeegee vacuum tube (26) from the sleeve (27) in the squeegee body (**Fig.17**).


10. Connect the wand kit vacuum tube (23) to the squeegee vacuum tube (26) (**Fig.18**).

11. Turn on the machine and turn the key (1) a quarter turn clockwise (**Fig.1**).

12. Activate the vacuum control kit by pressing the button (28) (**Fig.21**).

 **N.B.:** as soon as the button (28) is pressed, the LED on it will light up (**Fig.21**).

 **N.B.:** As soon as the button (28) on the control display is pressed, the symbol for the vacuum wand kit will appear (**Fig.20**).

 **N.B.:** With the vacuum wand kit active, the traction and work functions are deactivated.

 **WARNING:** never pick up solid matter such as dust, cigarette stubs, paper, etc.

⚠ CAUTION: Never collect gases, explosive/inflammable liquids or powders, nor acids and solvents! These include gasoline, paint thinners and fuel oil (which, when mixed with the vacuum air, can form explosive vapours or mixtures), and also non-diluted acids and solvents, acetones, aluminium and magnesium powders. These substances may also corrode the materials used to construct the machine.

⚠ CAUTION: If the machine is used in dangerous areas (e.g. petrol stations), the relative safety standards must be observed. It is forbidden to use the machine in environments with a potentially explosive atmosphere.

13. After completing the task, the wand kit can be fixed in the side support on the machine (**Fig.21**).

SPRAY GUN KIT

On request, the machine can be equipped with the spray gun kit; in order to use this, proceed as follows:

1. Make sure that the brush head body is in the rest position; if this is not the case, press the “BRUSH HEAD CONTROL” button (7) on the control panel (**Fig.4**).

i N.B.: When the brush head body is in the rest position, the green LED (“BRUSH HEAD BODY WORK POSITION”) (8) will switch off (**Fig.4**).

2. Move the squeegee body into the rest position and turn the squeegee body control lever (3) in the direction of the arrow (**Fig.8**). The lever is located on the back of the machine.

3. Release the spray gun accessory (29) (at the back of the machine) from the retainers (**Fig.22**).

4. Activate the optional spray gun kit by pressing the button (28) on the back of the machine (**Fig.21**).

i N.B.: As soon as the button (28) on the control display is pressed, the symbol for the spray gun kit will appear (**Fig.23**).

i N.B.: With the spray gun kit active, the traction and work functions are deactivated.

⚠ CAUTION: when using the optional tank cleaning kit, you are advised to always wear goggles to avoid any risk of serious injury to your eyes.

i N.B.: Before activating the optional tank cleaning kit, check the level indicator (30) to see how much solution there is in the solution tank (**Fig.24**).

5. Activate the solution jet by pressing the lever in the tank cleaning accessory. Make sure the jet is pointing into the tank before pressing the lever.

i N.B.: To adjust the solution jet from the tank cleaning accessory, turn the knob (31) on the accessory itself (**Fig.25**).

i N.B.: To adjust the intensity of the solution jet from the tank cleaning accessory, turn the knob (32) on the accessory itself (**Fig.26**).

i N.B.: To stop the solution jet, use the lever (33) on the tank cleaning accessory (**Fig.27**).

ALARM SCREEN

When an error occurs, the corresponding alarm screen will appear on the control display.

The display of the alarm consists of a first blinking line relating to the code (34) and the source of the error (35), while the second line displays a summary (36) of the error description (**Fig.28**).

The alarm screen will remain visible until the error is resolved. When an error occurs, do as follows:

1. Stop the machine immediately.
2. If the error persists, switch off the machine, wait for at least ten seconds and switch on the machine.
3. If the error persists contact the nearest service centre.

AUTOMATIC REQUEST FOR TECHNICAL ASSISTANCE (FFM VERSIONS)

The machine has an automatic service for activating an urgent technical assistance request. To activate this function, the operator must press the button (38) under the hatch (37) bearing the symbol “SOS” (**Fig. 29**).

i N.B.: in order to activate this urgent technical assistance request the machine needs to be equipped with the FIMAP FLEET MANAGEMENT kit.

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

BATTERY DISCONNECT SWITCH

If any serious problems are encountered during the work operations, press the battery disconnect button (39) on the electrical system carter (**Fig. 30**).

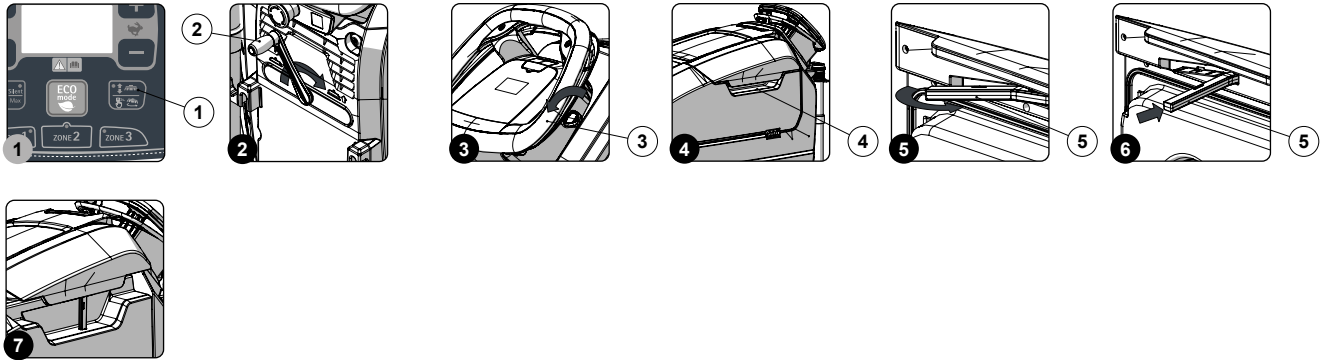
⚠ CAUTION: this command interrupts the electrical circuit that goes from the batteries to the machine system.

i N.B.: To recommence work having stopped and once the problem has been resolved, switch off the machine and turn the knob (39) in the direction of the arrows indicated on it.

OVERFLOW DEVICE

The machine is NOT equipped with an overflow device, because the volume of the recovery tank is greater than the capacity of the solution tank. In extraordinary cases, there is a mechanical device (float) under the recovery tank lid that, when the recovery tank is full, shuts off the air to the vacuum motor intake to protect it; the sound of the suction motor will then be deeper. Empty the recovery tank (see "[EMPTYING THE RECOVERY TANK](#)").

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. Lift the brush head body and press the "BRUSH HEAD CONTROL" button (1) on the control panel (**Fig.1**).

i **N.B.:** As soon as the button (1) on the control panel is pressed, the green LED associated with this will switch off.

2. Raise the squeegee body off the floor by means of the lever (2) on the back of the machine (**Fig.2**).
3. Take the appliance to the dedicated dirty water drainage area.
4. Switch off the machine by turning the main switch (3) to "0", making a quarter turn of the key in the direction of the arrow (**Fig.3**). Remove the key from the instrument panel.
5. Carry out all the procedures listed in the chapter "[RECOMMENDED PERIODIC MAINTENANCE](#)" indicated in the column "AT THE END OF THE WORK".
6. Take the machine to the designated machine storage place.

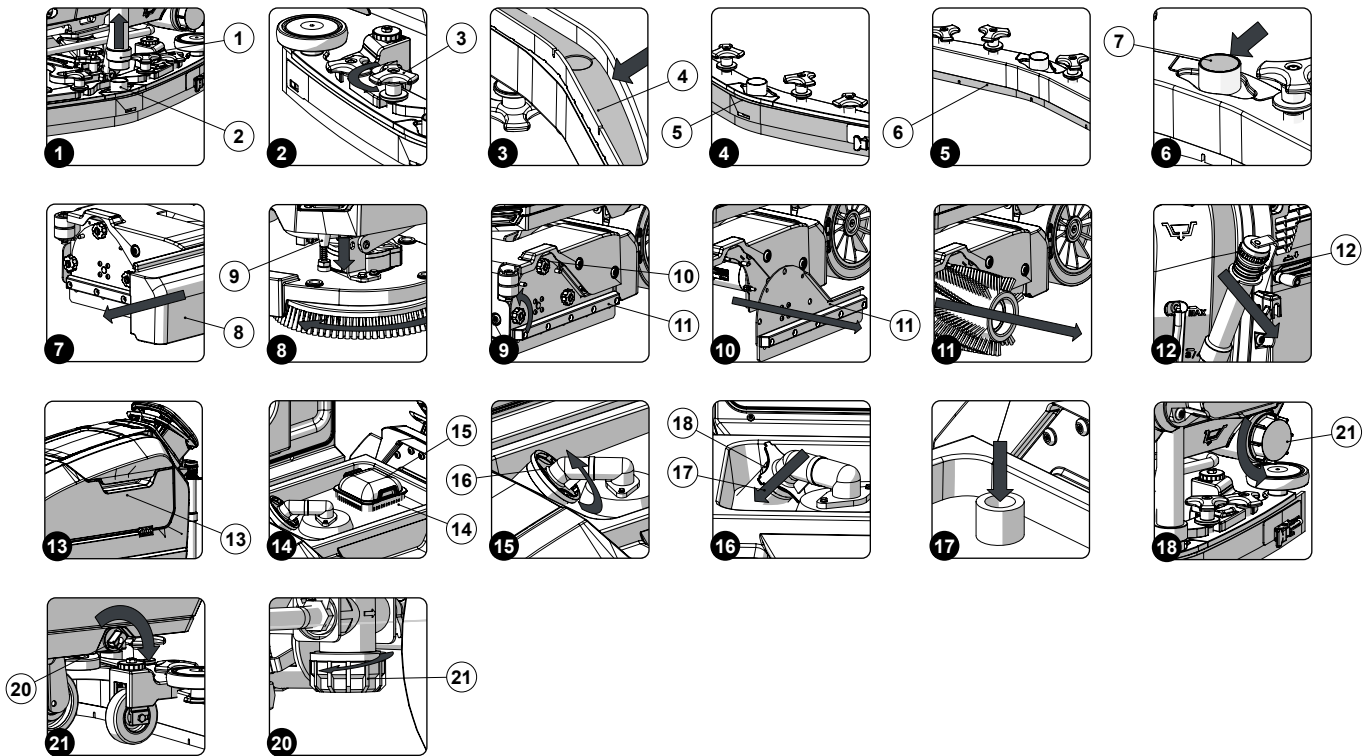
⚠ ATTENTION: Park the machine in an enclosed place, on a flat surface; near the machine there must be no objects that could either damage it, or be damaged through contact with it.

7. Secure the machine, see the section titled "[SECURING THE MACHINE](#)".

⚠ ATTENTION: if the machine is left unused for more than one whole day, remove the brush from the brush head body, and the squeegee body from the squeegee support.

8. Grip the handle (4) on the right-hand side of the recovery tank cover (**Fig.4**) and turn the tank cover as far as it will go.
9. Grip the prop (5) and turn it as far as it will go (**Fig.5**).
10. Block the rotation of the prop (5) by pushing it towards the inside of the cover (**Fig.6**).
11. Grip the handle (4) and turn the recovery tank cover until the prop (5) is resting on the recovery tank (**Fig.7**).


RECOMMENDED MAINTENANCE OPERATIONS



| INTERVAL | MACHINE COMPONENTS | PROCEDURE |
|---|---|--|
| DAILY; BEFORE A LONG PERIOD OF INACTIVITY | Squeegee | Clean the vacuum chamber; the squeegee rubber blades; the vacuum nozzle (see “CLEANING THE SQUEEGEE BODY”). |
| | Debris hopper | Empty the debris hopper and clean inside (see “CLEANING THE DEBRIS HOPPER (SWEEPING VERSION)”). |
| | Brush head brushes | Clean the brushes on the brush head body (see “CLEANING THE BRUSH HEAD BODY BRUSHES (SCRUBBING VERSION)”). |
| | | Clean the brushes on the brush head body (see “CLEANING THE BRUSH HEAD BODY BRUSHES (SWEEPING VERSION)”). |
| | Recovery tank | At the end of every working day, empty the recovery tank (see “EMPTYING THE RECOVERY TANK”). |
| | | At the end of every working day, after having emptied the recovery tank, clean the vacuum system filters (see “CLEANING THE RECOVERY TANK FILTERS”). |
| Solution tank | At the end of every working day, after having emptied the recovery tank, clean the vacuum tube (see “CLEANING THE VACUUM TUBE”). | |
| WEEKLY | Machine water system | Clean the filter in the machine's water system (see “CLEANING THE WATER SYSTEM FILTER”). |
| | Squeegee rubber blades | Check that the rubber blades on the squeegee body are intact and inspect for wear; if necessary, replace these (see “REPLACING THE SQUEEGEE BODY RUBBER BLADES”). |
| | Brush head brushes | Check that the brushes on the brush head body are intact and inspect for wear; if necessary, replace these (see “REPLACING THE BRUSH HEAD BODY BRUSHES (SCRUBBING VERSION)”). |
| Check that the brushes on the brush head body are intact and inspect for wear; if necessary, replace these (see “REPLACING THE BRUSH HEAD BODY BRUSHES (SWEEPING VERSION)”). | | |
| MONTHLY | Squeegee rubber blade levelling | Check that the rubber blades on the squeegee body are level and if necessary, adjust these (see “ADJUSTING THE SQUEEGEE BODY RUBBER BLADES”). |

Before performing any routine or extraordinary maintenance operation, proceed as follows:

1. Take the machine to the maintenance area.

 **N.B.:** the place given over to this operation must comply with current environmental protection regulations.


2. Make sure the machine is in a safe condition (see chapter "[MACHINE SAFETY MEASURES](#)").

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


CLEANING THE SQUEEGEE BODY


The careful cleaning of the whole vacuum unit ensures better drying and cleaning of the floor as well as a longer suction motor life. To carry out the cleaning of the squeegee body, proceed as follows:

1. Remove the vacuum hose (1) from the vacuum nozzle (2) on the squeegee unit (**Fig.1**).
2. Completely unscrew the knobs (3) on the squeegee body pre-assembly (**Fig.2**).
3. Remove the squeegee body from the slits in the squeegee connector.
4. Thoroughly clean the squeegee body vacuum chamber (4) with a jet of water, and then with a damp cloth (**Fig.3**).

 **N.B.:** The place given over to this operation must comply with current environmental protection regulations.

5. Thoroughly clean the squeegee body rear rubber blade (5) with a jet of water, and then with a damp cloth (**Fig.4**).
6. Thoroughly clean the squeegee body front rubber blade (6) with a jet of water, and then with a damp cloth (**Fig.5**).
7. Use a jet of water and then a damp cloth to thoroughly clean the vacuum nozzle (7) (**Fig.6**).
8. Proceed in the opposite order to reassemble all the parts.


 **N.B.:** Check the wear of the rear rubber blade (5) on the squeegee body; if the edge of the rubber in contact with the floor is worn, replace it. Refer to "[REPLACING THE SQUEEGEE BODY RUBBER BLADES](#)".

 **N.B.:** Check the wear of the front rubber blade (6) on the squeegee body; if the edge of the rubber in contact with the floor is worn, replace it. Refer to "[REPLACING THE SQUEEGEE BODY RUBBER BLADES](#)".

CLEANING THE DEBRIS HOPPER (SWEEPING VERSION)

To clean the debris hopper, proceed as follows:

1. Use the moulded handle to extract the debris hopper (8) (**Fig.7**) and empty it.


 **N.B.:** The place given over to this operation must comply with current environmental protection regulations.

2. Clean the inside with a jet of water, and use a brush to remove any residual impurities if necessary.
3. Proceed in the opposite order to reassemble all the parts.


CLEANING THE BRUSH HEAD BRUSHES (SCRUBBING VERSION)

Careful cleaning of the brush guarantees better cleaning of the floor, as well as a longer brush head gearmotor lifespan. To clean the brush, proceed as follows:

1. Go to the front of the machine.
2. Press the brush-holder plate retainer (9) and simultaneously rotate the brush in the direction shown in the image (**Fig.8**).

 **ATTENTION:** **Fig.8** shows the rotation direction of the left-hand brush.

3. When brush rotation is prevented, turn until the button on the brush is disengaged from the coupling spring on the brush-holder plate.
4. Repeat the same operation for the right-hand brush.
5. Clean the brush under running water to remove any impurities from its bristles.
6. See "[INSTALLING THE BRUSH \(SCRUBBING VERSION\)](#)" for instructions on refitting the brushes in the brush head body.

 **N.B.:** Check that the bristles are not worn; in the event of excessive wear, replace the brush (the bristles should be at least 10 mm long). See "[REPLACING THE BRUSH \(SCRUBBING VERSION\)](#)" to replace the brush.

CLEANING THE BRUSH HEAD BRUSHES (SWEEPING VERSION)

Careful cleaning of the brush guarantees better cleaning of the floor, as well as a longer brush head gearmotor lifespan. To clean the brush, proceed as follows:

1. Go to the front of the machine.
2. Remove the knobs (10) that fix the left-hand side carter (11) in place by turning anti-clockwise (**Fig.9**).
3. Remove the left lateral carter (11) (**Fig.10**).
4. Extract the brush from the tunnel (**Fig.11**).
5. Repeat the same operation for the right-hand brush.
6. Clean the brush under running water to remove any impurities from its bristles.

7. See "[INSTALLING THE BRUSH \(SWEEPING VERSION\)](#)" for instructions on refitting the brushes in the brush head body.



N.B.: Check that the bristles are not worn; in the event of excessive wear, replace the brush (the bristles should be at least 10 mm long). See "[REPLACING THE BRUSH \(SWEEPING VERSION\)](#)" to replace the brush.

DRAINING THE RECOVERY TANK

Proceed as follows to empty the recovery tank:

1. Release the recovery tank drainage tube (12) (at the back of the machine) from the retainers (**Fig.12**).
2. Bend the end of the drainage tube, so as to create a choke and prevent the contents from coming out, put the tube on the discharge surface, unscrew the cap and gradually release the tube.



N.B.: The place given over to this operation must comply with current environmental protection regulations.

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

CLEANING THE RECOVERY TANK FILTERS

To clean the recovery tank (without the optional tank cleaning kit), proceed as follows:

1. Grip the handle (13) on the left-hand side of the recovery tank (**Fig.13**) and turn the tank cover as far as it will go, until it reaches the maintenance position.
2. Remove the dirty water basket/filter (14) from the support (**Fig.14**).
3. Remove the basket cover and clean the basket/filter and the basket cover (15) under a jet of running water.



N.B.: Use a spatula or brush to eliminate any dirt that is particularly difficult to remove.

4. Use a cloth to dry the basket/filter and basket cover, and place them back inside the recovery tank.
5. Remove the filter protection cup (16), turning it in the direction of the arrow (**Fig.15**).
6. Remove the suction motor filter (17), taking care not to lose the support tie (18) inside the recovery tank (**Fig.16**).
7. Rinse both the cup and the filter carefully under running water.



N.B.: Use a spatula or brush to eliminate any dirt that is particularly difficult to remove.

8. Rinse the inside of the recovery tank with a jet of water. If necessary, use a spatula to remove any sludge that may have accumulated at the bottom of the tank.
9. Repeat the operations in reverse order to reassemble all the parts.

CLEANING THE VACUUM TUBE

Careful cleaning of the vacuum hose guarantees better cleaning of the floor as well as a longer suction motor life. Proceed as follows to clean the vacuum hose:

1. Grip the handle (13) on the left-hand side of the recovery tank (**Fig.13**) and turn the tank cover as far as it will go, until it reaches the maintenance position.
2. Remove the dirty water basket/filter (14) from the support (**Fig.14**).
3. Rinse the inside of the vacuum tube with a jet of running water (**Fig.17**).
4. Repeat the operations in reverse order to reassemble all the parts.

EMPTYING THE SOLUTION TANK

Proceed as follows to empty the solution tank:

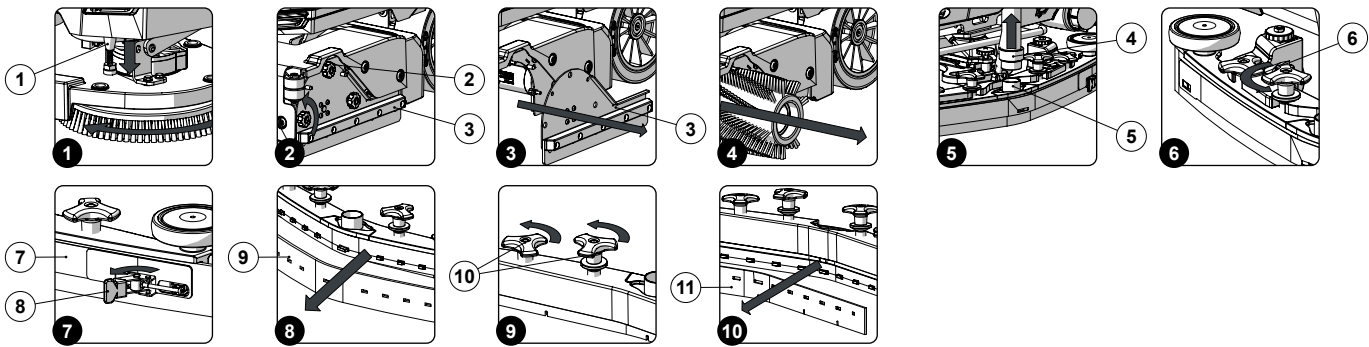
1. Unscrew the cap (21) for the solution tank dumping system (**Fig.18**); the cap is located at the rear of the machine.
2. With the solution tank empty, rinse the inside of the solution tank with a jet of running water.

CLEANING THE WATER SYSTEM FILTER

In order to clean the water system's filter, do the following:

1. Block the tap outflow, rotating the knob (20) in the direction of the arrow (**Fig.21**).
2. Go to the right-hand side of the machine and loosen the detergent solution filter cap (21) (**Fig.20**).
3. Remove the filter cartridge and rinse under a jet of water, using a brush to eliminate any impurities if necessary.
4. Once the filter cartridge is clean, repeat the operations in the opposite order to reassemble all the parts.

EXTRAORDINARY MAINTENANCE WORK



REPLACING THE BRUSH (SCRUBBING VERSION)

The good condition of the brush guarantees better cleaning of the floor, as well as a longer brush head gearmotor lifespan. To replace the brush, proceed as follows:

1. Go to the front of the machine.
2. Press the brush-holder plate retainer (1) and simultaneously rotate the brush in the direction shown in the image (Fig.1).

⚠ ATTENTION: Fig.1 shows the rotation direction of the left-hand brush.

3. When brush rotation is prevented, turn until the button on the brush is disengaged from the coupling spring on the brush-holder plate.
4. Repeat the same operation for the right-hand brush.
5. See "[INSTALLING THE BRUSH \(SCRUBBING VERSION\)](#)" for instructions on fitting the new brushes in the brush head body.

REPLACING THE BRUSH (SWEEPING VERSION)

The good condition of the brush guarantees better cleaning of the floor, as well as a longer brush head gearmotor lifespan. To replace the brush, proceed as follows:

1. Go to the front of the machine.
2. With the brush head raised from the floor, turn the knobs (2) that hold the left lateral carter (3) in place anti-clockwise (Fig.2).
3. Remove the left lateral carter (3) (Fig.3).
4. Extract the brush from the tunnel (Fig.4).
5. Repeat the same operation for the right-hand brush.
6. See "[INSTALLING THE BRUSH \(SWEEPING VERSION\)](#)" for instructions on fitting the new brushes in the brush head body.

REPLACING THE SQUEEGEE BODY RUBBER BLADES

Ensuring the integrity of the squeegee body's rubber blades guarantees better floor cleaning and drying results, as well as a longer service life for the suction motor. In order to replace the squeegee body's rubber blades, do the following:

1. Remove the vacuum hose (4) from the vacuum nozzle (5) on the squeegee body (Fig.5).
2. Completely unscrew the knobs (6) on the squeegee body pre-assembly (Fig.6).
3. Remove the squeegee body from the slits in the squeegee connector.

To remove the rear squeegee rubber blade, proceed as follows:

- Remove the rear rubber blade compression plate (7), and release the stop (8) at the rear of the squeegee (Fig.7).
- Remove the rear rubber blade (9) from the squeegee body (Fig.8).
- Replace the worn rubber blade with a new one.

i N.B.: The rubber blade can be rotated symmetrically to be used more than once.

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

To remove the front squeegee rubber blade, proceed as follows:

- Completely unscrew the knobs (10) on the squeegee body pre-assembly (Fig.9); this will cause the internal squeegee body to move downwards, and the front rubber blade can then be removed.
- Remove the front rubber blade (11) from the squeegee's internal body (Fig.10).
- Replace the worn rubber blade with a new one.

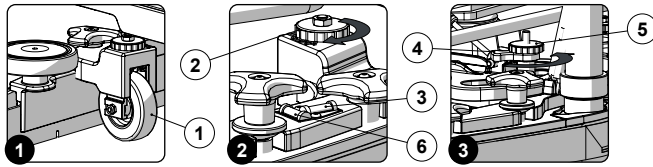
i N.B.: The rubber blade can be rotated symmetrically to be used more than once.

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

i **N.B.:** Before using the machine, remember to adjust the squeegee body: see the section titled "[ADJUSTING THE SQUEEGEE BODY'S RUBBER BLADES](#)".

i **N.B.:** It is recommended to replace both squeegee body blades in order to ensure good results when drying the floor.

ADJUSTMENT INTERVENTIONS



ADJUSTING THE SQUEEGEE BODY'S RUBBER BLADES

The careful adjustment of the squeegee body rubber blades guarantees better cleaning of the floor.

To adjust the height of the squeegee body:

1. The distance of the squeegee rubber blades from the floor can be adjusted by changing the distance between the wheels (1) located on the squeegee support and the floor itself (**Fig.1**).
2. To adjust this distance, simply use the adjustment knobs (2) located on the squeegee support (**Fig.2**).

i **N.B.:** To decrease the distance, simply turn the adjustment levers (2) in the direction indicated by the arrows with the sign "-", while to increase the distance just follow the arrows with the "+" sign.

i **N.B.:** On decreasing the distance, the rubber blades on the squeegee body will move closer to the floor.

i **N.B.:** For effective drying, the wheels must be at the same distance from the floor.

i **N.B.:** Check for proper adjustment by looking at the instrument (3) positioned on the squeegee body (**Fig.2**).

Adjusting the tilt of the squeegee body:

3. The angle of incline of the squeegee body is adjusted by rotating the lever (4) located on the squeegee support (**Fig.3**).
4. To adjust the inclination of the squeegee body, loosen the knob (5) and tighten or loosen the lever (4) (**Fig.3**), until the squeegee body rubber blades are bent towards the outside evenly along the entire length by about 30° with respect to the floor.

i **N.B.:** Check for proper adjustment by looking at the instrument (6) positioned on the squeegee body (**Fig.2**).

i **N.B.:** Moving the lever (4) clockwise will raise the central part of the squeegee body from the floor.

5. Once the adjustment has been completed, tighten the knob (5).

CHOOSING AND USING BRUSHES

POLYPROPYLENE BRUSH (PPL)

Used on all types of floors. Good resistance to wear and tear, and hot water (no greater than 50°C.). PPL is non-hygroscopic and therefore retains its characteristics even 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.

BRISTLE THICKNESS

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 over-large 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 pad holder is recommended above all for machines with more than one brush, where the centring of the abrasive discs is difficult.

| MACHINE | CODE | QTY | BRISTLE | NOTES |
|------------|--------|-----|----------|-------------|
| MxL 65 Bt | 422189 | 2 | PPL 0.3 | BLUE BRUSH |
| | 422971 | 2 | PPL 0.6 | WHITE BRUSH |
| | 422972 | 2 | PPL 0.9 | BLACK BRUSH |
| | 422981 | 2 | ABRASIVE | GREY BRUSH |
| | 422973 | 2 | - | PAD HOLDER |
| MxL 75 Bt | 414272 | 2 | PPL 0.3 | BLUE BRUSH |
| | 414270 | 2 | PPL 0.6 | WHITE BRUSH |
| | 414273 | 2 | PPL 0.9 | BLACK BRUSH |
| | 414271 | 2 | ABRASIVE | GREY BRUSH |
| | 405508 | 2 | - | PAD HOLDER |
| MxL 85 Bt | 445562 | 2 | PPL 0.3 | BLUE BRUSH |
| | 445563 | 2 | PPL 0.6 | WHITE BRUSH |
| | 445564 | 2 | PPL 0.9 | BLACK BRUSH |
| | 445565 | 2 | ABRASIVE | GREY BRUSH |
| | 421819 | 2 | - | PAD HOLDER |
| MxL 70 Bts | 449785 | 2 | PPL 0.3 | BLUE BRUSH |
| | 448012 | 2 | PPL 0.6 | WHITE BRUSH |
| | 448013 | 2 | PPL 0.9 | BLACK BRUSH |
| | 448014 | 2 | ABRASIVE | GREY BRUSH |

TROUBLESHOOTING

This chapter lists the most common problems linked with the use of the machine. If you are unable to resolve the problems with the information given here, please contact your nearest assistance centre.

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|--|--|
| THE MACHINE DOES NOT START | The main switch is set to "0". | Make sure the main switch is on "I". If it isn't, turn the key clockwise. |
| | Check that when switched on there are no alarm messages on the command display. | Stop the machine immediately and contact the technician of the specialised service centre, or press the SOS button if the FFM kit is installed. |
| | Make sure that the batteries are correctly connected to each other and that the battery connector is connected to the electrical system connector. | Connect the batteries correctly inside the machine (see INSERTING THE BATTERIES IN THE MACHINE). |
| | Check the charge level of the batteries. | If the battery charge level is critical, perform a complete recharge cycle (see paragraph CHARGING THE BATTERIES). |
| THE BATTERIES ARE NOT CHARGED CORRECTLY (VERSIONS WITH AN ON BOARD BATTERY CHARGER) | The plug on the battery charger's cable is not correctly inserted into the socket on the battery charger itself. | Reconnect the battery charger's power cable. |
| | The plug on the battery charger's power cable is not correctly inserted into the electrical outlet. | Check that the battery charger power supply cable plug is connected to the mains socket. |
| | The characteristics of the mains power supply do not correspond to those required by the battery charger. | Check that the characteristics in the battery charger plate are the same as those of the mains supply. |
| | The LEDs of the battery charger blink repeatedly. | Referring to the battery charger use and maintenance manual, check the meaning of the flashing signals that the battery charger emits during the battery recharge stage. |
| THE MACHINE HAS A VERY LOW WORK AUTONOMY | Check the battery charge level, check the symbol on the command display. | If the battery charge level is critical, perform a complete recharge cycle (see "RECHARGING THE BATTERIES"). |
| THE MACHINE DOES NOT MOVE | The machine does not start. | Read the section "THE MACHINE DOES NOT START" . |
| | There is an issue on the drive pedal. | Contact your nearest service centre. |

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|--|---|
| NOT ENOUGH DETERGENT SOLUTION ON THE BRUSH | The quantity of detergent solution in the water system is not sufficient for the work to be carried out. | Check that the amount of detergent solution present in the machine's water system is sufficient for the work to be carried out. |
| | Detergent solution filter obstructed. | Check the detergent solution filter isn't obstructed. If it is, clean it (see "CLEANING THE WATER SYSTEM FILTER"). |
| THE MACHINE DOES NOT CLEAN CORRECTLY | The machine does not start. | Read the section "THE MACHINE DOES NOT START" . |
| | Not enough detergent solution comes out. | Read the section "NOT ENOUGH DETERGENT SOLUTION ON THE BRUSH" . |
| | The brushes have not been inserted correctly in the machine. | Check that the disc brushes are correctly inserted into the machine (see "ASSEMBLING THE BRUSH (SCRUBBING VERSION)" or "ASSEMBLING THE BRUSH (SWEEPING VERSION)"). |
| | The type of brush used is not suitable for the dirt to be cleaned. | Make sure that the brushes fitted on the machine are suitable for the work to be carried out. Read "CHOOSING AND USING THE BRUSHES" . |
| | The brush bristles are excessively worn. | Check the wear of the brush and if necessary replace it (see "REPLACING THE BRUSH (SCRUBBING VERSION)" or "REPLACING THE BRUSH (SWEEPING VERSION)"). |
| THE SQUEEGEE DOES NOT DRY PERFECTLY | The vacuum unit is obstructed. | Make sure the squeegee is free of obstructions (read "CLEANING THE SQUEEGEE BODY"). |
| | | Make sure the vacuum tube is free of obstructions (see "CLEANING THE VACUUM TUBE"). |
| | | Make sure the vacuum cap filter is free of obstructions (see "CLEANING THE RECOVERY TANK FILTERS"). |
| | | Make sure the suction motor filter is free of obstructions (see "CLEANING THE RECOVERY TANK FILTERS"). |
| | The cap on the recovery tank drainage tube is not properly positioned. | Check that the cap on the recovery tank drainage tube is positioned properly. |
| | The recovery tank lid is not positioned correctly. | Check that the recovery tank lid is properly positioned on the machine. |
| EXCESSIVE FOAM PRODUCTION | The detergent being used is not suitable. | Check that a low foam detergent has been used. If necessary, add a small quantity of anti-foam liquid to the recovery tank. |
| | The floor is not very dirty. | Dilute the detergent more. |
| THE MACHINE DOES NOT VACUUM CORRECTLY | The recovery tank is full. | Empty the recovery tank (read "EMPTYING THE RECOVERY TANK"). |
| | The vacuum device is obstructed | Read the section "THE SQUEEGEE DOES NOT DRY PERFECTLY" . |

EC DECLARATION OF CONFORMITY

The undersigned manufacturer:

FIMAP S.p.A.

Via Invalidi del Lavoro, 1

37059 Santa Maria di Zevio (VR)

declares under its sole responsibility that the products

FLOOR SCRUBBING MACHINES

mod. MxL 65 Bt Pro - MxL 75 Bt Pro - MxL 85 Bt Pro - MxL 70 Bts Pro

comply with the provisions of Directives:

- 2006/42/EC: Machinery Directive.
- 2014/30/EC: Electromagnetic compatibility directive.

They also comply with the following standards:

- EN 60335-1:2012/A11:2014
- EN 60335-2-72:2012
- EN 12100:2010
- EN 61000-6-2:2005/AC:2005
- EN 61000-6-3:2007/A1:2011/AC:2012
- EN 62233:2008/AC:2008

The person authorized to compile the technical file:

Mr. Giancarlo Ruffo

Via Invalidi del Lavoro, 1

37059 Santa Maria di Zevio (VR) - ITALY

Santa Maria di Zevio (VR), 14/01/2019

Fimap S.p.A.
Legal representative
Giancarlo Ruffo



The undersigned manufacturer:

FIMAP S.p.A.

Via Invalidi del Lavoro, 1

37059 Santa Maria di Zevio (VR)

declares under its sole responsibility that the products

FLOOR SCRUBBING MACHINES

mod. MxL 65 Bt CB Pro - MxL 75 Bt CB Pro - MxL 85 Bt CB Pro - MxL 70 Bts CB Pro

comply with the provisions of Directives:

- 2006/42/EC: Machinery Directive.
- 2014/35/EC: Low Voltage Directive.
- 2014/30/EC: Electromagnetic compatibility directive.

They also comply with the following standards:

- EN 60335-1:2012/A11:2014
- EN 60335-2-72:2012
- EN 12100:2010
- EN 60335-2-29:2004/A2:2010
- EN 61000-6-2:2005/AC:2005
- EN 61000-6-3:2007/A1:2011/AC:2012
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 55014-1:2006/A1:2009/A2:2011
- EN 55014-2:2015
- EN 62233:2008/AC:2008


The person authorized to compile the technical file:

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Fimap S.p.A.
Legal representative

Giancarlo Ruffo



FIMAP spa - Via Invalidi del Lavoro, 1 - 37059 S. Maria di Zevio - Verona - Italy
Tel. +39 045 6060411 – Fax +39 045 6060417 – E-mail: fimap@fimap.com
www.fimap.com