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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
[]i	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.
\bigtriangleup	Covered place symbol: The operations preceded by this symbol must always be carried out in a dry, covered area.
i	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.
X	Disposal symbol: Carefully read the sections marked with this symbol for disposing of the appliance.



MAIN MACHINE COMPONENTS













The machine's main components are the following:

- 1. Control handlebars.
- 2. Operator seat.
- 3. Storage compartment carter.
- 4. Recovery tank lid.
- 5. Recovery tank drainage hose.
- 6. Solution tank filler shaft cap.
- 7. Brush head body.
- 8. Recovery tank.
- 9. Solution tank drain pipe.
- 10. Solution tank.
- 11. Squeegee body vacuum tube.
- 12. Squeegee unit vacuum nozzle.
- 13. Electric brake control lever.
- 14. Squeegee body.
- 15. Drive pedal.
- 16. Eco Mode activation button.
- 17. Buzzer activation button.
- 18. Emergency button.
- 19. Squeegee body control lever.
- 20. Water system filter.
- 21. Control display.
- 22. Reverse activation button.
- 23. Brush unlock activation button.
- 24. Machine main switch.
- 25. Brush head body control lever.
- 26. Blinking light.
- 27. Suction motor air intake filter.

GENERAL DESCRIPTION

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.

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.

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 **E55 R PLUS** is a floor scrubbing machine that can clean 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, compact 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 carpet floors. It is only suitable for use in closed (or at least covered) places.



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



SAFETY

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

REGULATIONS

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



DEFINITION OF LEVELS OF WARNING

- DANGER: indicates an imminent dangerous situation that, unless avoided, will result in death or serious injuries.
- A WARNING: Indicates a potentially dangerous situation that, unless avoided, could cause death of serious injury.
- ATTENTION: Indicates a potentially dangerous situation that, unless avoided, could cause slight or moderate injuries.
- **N.B.:** instructs the reader to pay particular attention to the topic that follows.

SYMBOLS USED ON THE MACHINE

SERIAL NUMBER PLATE



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

The weight of the batteries that power the machine (expressed in kg).

- The IP protection rating of the machine.
- The gross weight of the machine (expressed in kg).
- 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.



Direct current symbol:

It is 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 mass of the batteries used to power the machine (expressed in kg). The value refers to the batteries that the manufacturer offers, see paragraph. "TYPE OF BATTERY TO BE USED" on page 12

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

UP	Symbol indicating the rest position of the brush head body and the squeegee body: Used at the rear of the steering column to indicate how to rotate the squeegee control lever and the brush head body lever to position them in rest or maintenance mode.
DOWN	Symbol indicating the work position of the brush head body and the squeegee body: Used at the rear of the steering column to indicate how to rotate the squeegee control lever and the brush head body lever to position them in work mode.
<i>/</i>	Brush head body control lever symbol: Used at the rear of the steering column to indicate the brush head body control lever.
	Squeegee body control lever symbol: Used at the rear of the steering column to indicate the squeegee body control lever.
∖ Ę∕∕	Solution tank drain pipe symbol: Located on the rear part of the machine, to identify the solution tank drainage tube.
	Recovery tank drainage hose symbol: Located on the rear part of the machine, to identify the recovery tank drainage tube.





Cap/filter position symbol:

Applied to the rear of the machine to indicate the position of the solution tank filter - cap.



Symbol of maximum temperature for filling the solution tank:

Located on the side of the machine to indicate the maximum temperature of the water for filling the solution tank safely.

ABELS ON THE MACHINE

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·	2

Adjustment of the detergent solution flow label:

This is used near the driver's seat to indicate how to move the knob to adjust the flow of detergent solution within the circuit of the machine's water system.



Label indicating the need to read the Use and Maintenance Manual: Applied in the vicinity of the steering column in order to remind the operator to read the user and maintenance manual before using the machine



Label indicating that the reading of the use and maintenance manual is compulsory: This is used in the rear part of the steering column to warn the user to read the use and maintenance manual (the present document) before using the machine for the first time.



Label prohibiting the vacuuming of flammable or incandescent substances:

This is used in the rear part of the steering column to warn the user that there is an absolute obligation not to vacuum flammable or incandescent substances...

Gas leakage warning label during battery charging:

This is used in the rear part of the steering column to warn the user to keep harmful and flammable gases from generating during the battery charge cycle.

Solution tank filter daily care warning label:

This is used in the front left side of the machine to warn the user to clean the solution tank filter after each use of the machine.



Label indicating the need to read the Use and Maintenance Manual:

Used in the brush head body, and indicates the prohibition to approach the brush head while the brush is moving.

Battery daily care and charging warning label (versions without battery charger on board): This is used in the rear part of the steering column to warn the user on how to recharge the batteries, and the daily care of the machine is explained in the lower part.

Battery charging warning label (versions with battery charger on board): This is used in the rear part of the steering column to warn the user how to recharge the batteries with the on-board battery charger.



Label warning about the risk of crushed hands:

Indicates danger to hands due to crushing between two surfaces.

Main switch label:

Used on the steering column to indicate which direction the key must be turned to activate or deactivate the machine's general switch



TECHNICAL DATA

TECHNICAL DATA	Unit of measurement [SI]	E55 R PLUS
Nominal input power [IEC 60335-2-72; IEC 62885-9]	kW	1,11
Solution tank capacity [IEC 62885-9]	I	65
Recovery tank capacity [IEC 62885-9]	I	75
Minimum inversion corridor [IEC 62885-9]	mm	1990
Machine dimensions during work (length x height x width)	mm	1980 1070 705
Machine dimensions during transport [IEC 62885-9]	mm	600
Battery compartment dimensions (length x height x width)	mm	360 355 290
Machine net weight [IEC 62885-9]	kg	110
Machine weight during transport [IEC 62885-9]	kg	190
GVW [IEC 60335-2-72; IEC 62885-9]	kg	330
Sound pressure level in operator seat [ISO 11201] (L_{pA})	dB	61,9
Sound power level [IEC 60335-2-72; IEC 62885-9; ISO 3744] (L _{wA})	dB	<80
Uncertainty K _{pA}	dB	±1,5
Hand-arm vibrations [IEC 60335-2-72; IEC 62885-9; ISO 5349-1]	m/s ²	<2.5
Whole body vibrations [IEC 60335-2-72; IEC 62885-9; ISO 2631-1]	m/s²	<0,5
Vibration measurement uncertainty		±4%
IP test [IEC 60335-2-72; IEC 60529]		IP23
Electrical protection class (machine # battery charger on board) [IEC 60335-2-72; IEC 60335-1]		I # II
Productivity	m²/h	2650
Maximum gradeability when working	%	8
Maximum ambient temperature for correct machine operation	°C	+40
Maximum ambient temperature for correct machine operation during scrubbing phase	°C	+10
Working width [IEC 62885-9]	mm	560
Nominal power of brush motor/s [IEC 62885-9]	W	500
Total width of brushes [IEC 62885-9]	mm	1x560
Maximum rpm at rated power	rpm	140
Maximum force of the brush head on the floor	N	147
Maximum pressure exerted by the brush head on the floor	N/cm ²	0,12
Squeegee width	mm	703
Drying track [IEC 62885-9]	mm	725
Nominal power of vacuum motor(s) [IEC 62885-9]	W	310
Maximum vacuum [IEC 62885-9; IEC 60312-1]	kPa	9,35
Maximum air flow [IEC 62885-9]	l/s	24
Nominal power of traction motor [IEC 62885-9]	W	300
Maximum transfer speed [IEC 62885-9]	km/h	5.6
Recommended maximum working speed	km/h	5



PREPARATION OF MACHINE



HANDLING THE PACKAGED MACHINE

The machine's overall weight including packaging is 135Kg.

The overall dimensions of the package are: Length = 143cm. Width = 66cm. Height = 120cm.

ATTENTION: 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.

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

2. Remove the outer package.

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

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

3. Insert a ramp in the rear part of the machine.

ATTENTION: The ramp gradient must not be such as to cause damage to the machine as it comes down.

- 4. Check that the main switch is set to "0", turn the key (1) a quarter turn anticlockwise (Fig.1). Remove the key from the main switch.
- 5. Raise the squeegee body off the floor, turn the lever on the steering column (2) clockwise (Fig.2).
- 6. Raise the brush head body off the floor, turn the lever on the steering column (3) anticlockwise (Fig.3).

7. Remove the electrobrake located in the traction motor, turn the electrobrake control lever (4) anticlockwise as far as it will go. (Fig.4).

8. The machine is fastened to the platform with wedges, remove these wedges.



9. Take the machine off the pallet via the ramp.

CAUTION: The ramp gradient must not be such as to cause damage to the machine.

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

N.B.: During this operation, the machine will nonetheless have a functioning safety system; having exceeded the critical threshold speed, the function board will automatically activate the internal braking system. When the braking system is active, the function board will emit an acoustic signal.

N.B.: When the machine has descended from the platform, activate the electrobrake in the traction motor; turn the electrobrake control lever (4) clockwise as far as it will go. (**Fig.5**).

HOW TO MOVE THE MACHINE

To transport the machine safely, proceed as follows:

- 1. Check that the solution tank and the recovery tank are empty; if this is not the case, empty them. See paragraphs "EMPTYING THE SOLUTION TANK" on page 23 and "DRAINING THE RECOVERY TANK" on page 22.
- 2. Place the machine on the transport vehicle.
- 3. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.

WARNING: secure the device according to the directives in force in the country of use (ex. 2014/47/EU), , 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 recovery tank is empty. If it isn't, empty it completely. See paragraph "DRAINING THE RECOVERY TANK" on page 22.
- 2. Sit on the driver's seat.
- 3. Check that the main switch is set to "0", turn the key (1) a quarter turn anticlockwise (Fig.1). Remove the key from the main switch.
- 4. Raise the squeegee body off the floor, turn the lever on the steering column (2) clockwise (Fig.2).
- 5. Raise the brush head body off the floor, turn the lever on the steering column (3) anticlockwise (Fig.3).
- 6. Check that the electrobrake located in the traction motor is active, turn the electrobrake control lever (4) clockwise as far as it will go. (Fig.5).
- 7. Grip the handle (5) and turn the recovery tank to its maintenance position (Fig.6).
- 8. Disconnect the battery connector from the machine's main system connector (Fig.7).

ATTENTION: It is recommended that the electrical connection operations be carried out by specialised and trained personnel.

9. Grip the handle (5) and turn the recovery tank to its working position (Fig.8).

TYPE OF BATTERY TO BE USED

The batteries must meet the requirements laid out in the norms: DIN/EN 60254-2 and IEC 254-2-2 (L range). To carry out the work effectively, the machine must have a 24V power supply; we recommend using two 12V MFP 105Ah/C₅ traction 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 working life, they must be disconnected by expert, trained personnel then removed from the battery compartment with the aid of 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 INTO THE MACHINE

The batteries must be housed in the special compartment inside the machine and should be handled using lifting equipment that is suitable in terms of both weight and its coupling system.



ATTENTION: to prevent an accidental short circuit use insulated tools to connect the batteries, and do not place or drop metal objects on the battery. Remove rings, watches and any clothing with metal parts that may come into contact with the battery terminals.



The various phases for inserting the batteries in the battery compartment are as follows:

- 1. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.
- 2. Grip the handle (5) and turn the recovery tank to its maintenance position (Fig.6).

1 N.B.: for battery maintenance and daily recharging, you must fully respect the indications provided by the manufacturer or retailer.

- ATTENTION: all installation and maintenance operations must be carried out by specialised personnel.
- N.B.: before installing the battery, clean the battery compartment.
- **N.B.:** Check that the connectors on the cables supplied are functioning correctly.

ATTENTION: check that the characteristics of the battery that you are looking to use are appropriate for the type of work to be performed.

ATTENTION: Check the battery charge and the condition of the contacts on the battery.

N.B.: you are advised to only lift and move the batteries with lifting and transportation means suitable for the specific weight and size

ATTENTION: the lifting hooks must not damage the blocks, connectors or cables.

N.B.: Before inserting the batteries into the machine, remember to cover the terminals with a little grease to protect them against external corrosion.

3. House the batteries in the compartment, positioning the poles "+" and "-" opposite each other.

CONNECTING THE BATTERIES TO THE MACHINE'S ELECTRICAL SYSTEM

N.B.: The batteries should be connected so as to obtain a total voltage of 24V.

ATTENTION: It is recommended that the electrical connection operations be carried out by specialised and trained personnel.

ATTENTION: to prevent an accidental short circuit use insulated tools to connect the batteries, and do not place or drop metal objects on the battery. Remove rings, watches and any clothing with metal parts that may come into contact with the battery terminals.

The various phases for inserting the batteries in the battery compartment are as follows:

- 1. Using the supplied jumper cable, connect the batteries to the "+" and "-" poles in series.
- 2. Connect the battery connector cable to the "+" and "-" poles in order to obtain the terminal voltage of 24V.
- 3. Connect the battery connector to the electrical system connector.

RECHARGING THE BATTERIES

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

ATTENTION: The control board and the battery charger, if present on board, are set for lead-acid batteries; contact the nearest ICE assistance centre to modify the setting if you want to use gel batteries.

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 machine is not being used.

- 1. Bring the machine to the battery recharging area.
- 2. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.

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 (5) and turn the recovery tank to its maintenance position (Fig.6).

A. Recharging the batteries without the built-in battery charger:

• Disconnect the battery connector from the machine's main system connector (Fig.7).



· When the recharge cycle is complete, disconnect the battery charger supply cable from the cable on the battery charger itself.

• Grip the handle (5) and turn the recovery tank to its working position (Fig.8).

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. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.
- 3. Check to make sure that the water system's filter cap (6), located on the front left-hand side of the machine, is closed; if this is not the case, close it (Fig.9).
- 4. Check that the solution tank drainage tube (7) is positioned inside the compartment in the solution tank; if this is not the case, insert it (Fig.10).
- 5. Check to make sure that the solution tank drainage cap (8) is closed. If this is not the case, close it (Fig.11).
- 6. Fill with clean water, at a temperature no higher than 50°C and no lower than 10°C.
- 7. Check the level of water via the tube (7) located on the right-hand side of the machine (Fig.10).

The tank can be filled with water in the following ways:

A) filling through the side inlet:

- Remove the cap (9) on the side of the machine (Fig.12), and fill the solution tank using a hose or a bucket.
- Before filling the tank, check that the filter (10) is correctly positioned above the filler opening (Fig.12).

B) filling through the quick filling pipe:

- Remove the filler pipe (7) from its housing (Fig.13), remove the closure cap (8) (Fig. 14) and insert inside the water filler pipe.
- Remember to remove the cap (9) (Fig.12) so the air can be properly vented.

N.B.: the filler pipe (7) supports the water filler pipe.

DETERGENT SOLUTION

After filling the solution tank with clean water, proceed as follows:

- 1. Bring the machine to the area designated for refilling the solution tank.
- Secure the machine, see paragraph "MACHINE SAFETY" on page 12. 2
- Remove the cap (9) on the side of the machine (Fig.12), add the detergent solution to the tank in the concentration indicated and according to 3. the instructions provided by the detergent manufacturer on the label.
- 4. Before adding the detergent solution to the tank, check that the filter (10) is correctly positioned above the filler opening (Fig.12).

N.B.: To prevent the formation of an excessive amount of foam that could damage the vacuum motor, use the minimum percentage of detergent required.

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

ATTENTION: always use detergents whose manufacturer's label indicates their suitability for scrubbing machines. Do not use acid or alkaline products or solvents without this indication.



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

ASSEMBLING THE SQUEEGEE BODY

For packaging reasons, the squeegee body comes disassembled from the machine. To assemble it on the squeegee body support, proceed as follows:

1. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.

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

- Unscrew the knobs (11) in the squeegee body pre-assembly (Fig.15). 2
- Insert the left pin (12) on the squeegee body into the left slit (13) in the squeegee support (Fig.16), making sure that the washer and spring 3 adhere to the top of the squeegee support.
- 4 Repeat the same operation for the right pin.
- Tighten the knobs (11), ensuring that the washer and spring adhere to the top part of the squeegee support (Fig.17).
- Insert the vacuum tube (14) in the sleeve (15) in the squeegee body (Fig.18). 6.

N.B.: Although the squeegee comes pre-adjusted, it is nevertheless advisable to read the section entitled "ADJUSTING THE SQUEEGEE BODY RUBBER BLADES" on page 17.

ASSEMBLING THE BRUSH HEAD BODY BRUSH

The machine is supplied without brush head brushes. To insert them into the brush holder plates in the brush head body, perform the following:

1. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.

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

- 2. Stand on the left side of the machine.
- Insert the brush in its seat on the plate beneath the brush head, turning it until the three buttons enter the slots on the plate. 3
- Turn in increments until the button is pushed towards the coupling spring and is locked in place (Fig.19). 4

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. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.



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

3. Tighten the tap's output flow fully; shift the knob (16) on the left-hand side of the steering column (Fig.20) upwards. 4. Move to the front of the machine, insert the filter cartridge (17) in the housing on the cap (6) (Fig.21).



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

5. Screw the cap (6) onto the body of the detergent solution filter (Fig.9).



PREPARING TO WORK



Before beginning to work, it is necessary to:

- 1. Check that the machine is off, otherwise set the main switch to position "0" by turning the key (1) a quarter turn anticlockwise (**Fig. 1**). Remove the key from the instrument panel.
- 2. Grip the handle (2) and turn the recovery tank to its maintenance position (Fig.2).
- 3. Connect the battery connector to the machine's main system connector (Fig.3).

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

- 4. Grip the handle (2) and turn the recovery tank to the working position (Fig.4).
- 5. Check the condition of the brush; in case of excessive wear, replace it. See paragraph "REPLACING THE BRUSH HEAD BODY BRUSH" on page 24.

N.B.: The wear of the brushes can be inspected by checking if the bristles are longer than 10mm; if this is not the case, they must be replaced (the brush has a tuft of yellow bristles, the total height of the tuft is 10mm).

- 6. Check to make sure that the water system's filter cap (3), located on the front left-hand side of the machine, is closed; if this is not the case, close it (**Fig.5**).
- 7. Make sure the vacuum tube (4) is correctly connected to the sleeve (5) in the squeegee body. If it isn't, connect it (Fig.6).
- Check the state of wear of the rubber blades in the squeegee body, if necessary replace these. See paragraph "REPLACING THE SQUEEGEE BODY RUBBER BLADES" on page 24.
- 9. Remove the recovery tank cover (6) by turning anticlockwise (Fig.7).
- 10. Make sure the recovery tank is empty; if not, empty it completely. See paragraph "DRAINING THE RECOVERY TANK" on page 22.
- 11. Remove the suction motor filter guard (7) by rotating anticlockwise (Fig.8).
- 12. Check that the suction motor filter (8) is clean (Fig.9). If this is not the case, clean it. See paragraph "CLEANING THE RECOVERY TANK FILTER-FLOAT" on page 22.
- 13. Refit the suction motor filter guard.
- 14. Refit the recovery tank cover.
- 15. Check that the solution tank drainage tube (9) is positioned inside the compartment in the solution tank; if this is not the case, insert it (Fig.10).
- 16. Check to make sure that the solution tank drainage cap (10) is closed. If this is not the case, close it (Fig.11).
- 17. Make sure the cap (11) of the recovery tank drainage tube is closed. If it isn't, close it (Fig.12).
- 18. Check that the recovery tank drainage tube (12) is positioned inside the compartment in the recovery tank; if this is not the case, insert it (Fig.13).
- 19. Check that the quantity of detergent solution in the solution tank is correct for the type of work to be carried out; if not, refill the solution tank. See paragraphs "FILLING THE SOLUTION TANK WITH WATER" on page 14 and "DETERGENT SOLUTION" on page 15.

N.B.: The quantity inside the tank can be seen by means of the level tube (13) which is located on the right-hand side of the machine (Fig.14).

20. Make sure the water tap is fully open; the solution adjustment knob (12) should be completely down (Fig.10).



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To start working, do as follows:

- 1. Carry out all the checks listed in the chapter "PREPARING TO WORK" on page 16.
- 2. Sit on the driver's seat.
- 3. Move the main switch to position "I" and turn the key (1) a quarter turn clockwise (Fig.1).
- 4. When the display comes on, the screens appear in sequence.

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1 N.B.: The first screen displays the machine model at the top of the screen, while the version of the installed software is displayed at the bottom of the screen.

STARTING WORK

N.B.: The second screen displays the total hours of use of the machine at the top of the screen, and the battery type stetting at the bottom of the screen.

N.B.: The third screen displays the partial hours of use of the machine at the top of the screen, and the percentage of battery charge at the bottom of the screen (**Fig.2**).

- 5. The steps for a complete scrubbing and drying cycle are explained below, see chapter "WORKING PROGRAMS" on page 18.
- 6. Lower the squeegee body, turn the lever (2) on the back of the steering column anticlockwise (Fig.3).
- 7. Lower the brush head body, turn the lever (3) on the back of the steering column clockwise (Fig.4).
- 8. Press the drive pedal (5) (**Fig.5**) to begin moving the machine.

N.B.: Only after the drive pedal is pressed, the gearmotor in the brush head body will start working and the solenoid valve will deliver the detergent solution.

N.B.: Only after the drive pedal is pressed, the gearmotor in the vacuum head will start working.

N.B.: During the first few meters of work, check that the amount of detergent solution being supplied is appropriate to the work to be carried out; if not, adjust this. See paragraph "REGULATING THE DETERGENT SOLUTION" on page 19.

9. The machine will now begin to work with full efficiency until the battery is flat or until the detergent solution has finished.

N.B.: When the machine stops, after a pre-set period of time, the gearmotor in the brush head body will stop and the solenoid valve will stop delivering the detergent solution.

N.B.: When the machine stops, after a pre-set period of time, the gearmotor in the vacuum head will stop working.

OVERFLOW DEVICE

The machine is equipped with a mechanical device (float) under the recovery tank lid that, when the recovery tank is full, shuts off the air to the suction motor intake to protect it; the sound of the suction motor will then be deeper. To empty the recovery tank, see paragraph "DRAINING THE RECOVERY TANK" on page 22.



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N.B.: If the machine is equipped with the optional electric float kit in the recovery tank, when activated for more than ten seconds, the motor in the vacuum head will stop working.



WORKING PROGRAMS







TRANSFER

With the machine set to the transfer working program, it can be moved from one work area to another. The only main actuator active is that of the traction gearmotor.

To activate the transfer working program, proceed as follows:

- 1. Raise the squeegee body, turn the lever (1) on the back of the steering column clockwise (Fig.1).
- 2. Raise the brush head body, turn the lever (2) on the back of the steering column anticlockwise (Fig.2).

DRYING

With the machine in the drying working program, it is possible to dry the previously washed portion of the floor. To activate the drying working program, proceed as follows:

- 1. Lower the squeegee body, turn the lever (1) on the back of the steering column anticlockwise (Fig.3).
- 2. Raise the brush head body, turn the lever (2) on the back of the steering column anticlockwise (Fig.2).



N.B.: If reversing with this program active, remember to lift the squeegee by turning the lever (1) clockwise. (Fig.1).

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

SCRUBBING WITH DRYING

With the machine in the scrubbing with drying working program, it is possible to both scrub and dry the floor at the same time. To activate the scrubbing with drying working program with a manual machine version, proceed as follows:

- 1. Lower the squeegee body, turn the lever (1) on the back of the steering column anticlockwise (Fig.3).
- 2. Lower the brush head body, turn the lever (2) on the back of the steering column clockwise (Fig.4).



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N.B.: If reversing with this program active, remember to lift the squeegee by turning the lever (1) clockwise. (Fig.1).

SCRUBBING WITHOUT DRYING

With the machine in the scrubbing without drying working program, it is possible to scrub the floor without vacuuming the detergent solution applied.

To activate the scrubbing without drying working program, proceed as follows:

- 1. Raise the squeegee body, turn the lever (1) on the back of the steering column clockwise (Fig.1).
- 2. Lower the brush head body, turn the lever (2) on the back of the steering column clockwise (Fig.4).







HOUR METER

To check the usage time of the machine, proceed as follows:

The control display is located on the handlebars, and the third screen that appears after the machine is turned on displays the machine's partial usage time (1) (Fig.1).



N.B.: The digits that precede the "." symbol identifies the hours, while the digit that follows identifies the minutes; the flashing of the ":" symbol identifies that the hour meter is running.

BATTERY CHARGE LEVEL INDICATOR

To check the battery charge level of a machine, proceed as follows:

The control display is located on the handlebars; the graphic symbol (2) that identifies the charge level of the batteries appears at the bottom of the display (**Fig.1**).



N.B.: When the batteries fitted in the machine are fully charged, the line at the bottom consists of ten illuminated indicator bars. As the batteries gradually run down, the indicator bars are no longer illuminated.

N.B.: With residual charge alert 1 (around out 20% of the total charge), the charge level will start to flash. Under these conditions, the control board in the machine will turn off the gearmotor and the solenoid valve in the brush head body.



N.B.: With residual charge alert 2 (around out 10% of the total charge), the charge level will start to flash. Under these conditions, the control board in the machine will turn off the motor in the vacuum head.

N.B.: A few seconds after the battery charge reaches the critical level, the brush motors switch off automatically. With the remaining charge



N.B.: A few seconds after the battery charge reaches the discharge level, the suction motor switches off automatically.

REGULATING THE DETERGENT SOLUTION

it is possible to complete the drying process before starting the recharge.

To adjust the detergent solution in versions without an automatic dosing system on board, proceed as follows:

- 1. Open the tap's output flow to the maximum, and shift the knob (3) on the rear of the steering column (Fig. 2) downward.
- 2. When the drive pedal (4) is pressed (**Fig.3**), the brush gearmotors will enter into function and the solenoid valve will distribute detergent solution to the brushes.
- 3. During the first few metres, check to make sure that the quantity of solution is sufficient to wet the floor, but not so much as to come out of the splash guard. The detergent leakage can be adjusted using the knob (3) on the steering column.

N.B.: When the knob (3) is moved downwards, the amount of detergent solution distributed to the brushes increases. When the knob (3) is moved upwards, the amount of detergent solution distributed to the brushes decreases.

REVERSE GEAR

To reverse, proceed as follows:

- 1. Stop the machine.
- 2. Raise the squeegee body off the floor, turn the lever on the steering column (5) clockwise (Fig.4).
- 3. Press the "reverse activation deactivation button (6) on the control handlebars (Fig.5).
- 4. To reverse the machine, press the drive pedal (4) (Fig.3).

N.B. : As soon as the machine begins to reverse, the safety buzzer will sound intermittently.





N.B.: If reverse gear is activated when the squeegee body is in the working position, the machine will not move until the squeegee body is brought into the resting position.



BUZZER

When the button (7) on the handlebars (Fig.5) is pressed continuously, it activates the buzzer on the machine.



N.B.: If the button (5) is pressed during the reverse movement, as a signal priority, only the intermittent buzzer connected to the reverse will be heard.

ECO MODE

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

ACTIVATING - DEACTIVATING ECO MODE

To activate/ deactivate Eco Mode while using the machine, press the button (8) on the handlebars (Fig.5).

N.B.: Eco Mode reduces the speed of the brush gearmotors and the suction motor, thus reducing the energy consumption of the machine.



N.B.: When Eco Mode is active, the word ECO will appear in the top right corner of the control display.

EMERGENCY BUTTON

if there are any problems while you are working, press the emergency switch (9) on the handlebar steering column (**Fig.6**). This function interrupts all functions that are active at that time.

Once you have stopped and turned off the machine and solved the problem, to resume work proceed as follows:

- 1. Move the emergency switch (9) (Fig. 6) to the rest position; turn the switch as indicated by the arrows printed on it.
- 2. Turn the main machine switch to "", turn the key a quarter turn clockwise.



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

- 1. Raise the squeegee body, turn the lever (1) on the back of the steering column clockwise (Fig.1).
- 2. Raise the brush head body, turn the lever (2) on the back of the steering column anticlockwise (Fig.2).
- 3. Press the drive pedal (3) (Fig.3) to begin moving the machine.
- 4. Take the machine to the maintenance area.

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

- 5. Turn off the machine and turn the key (4) a quarter turn anticlockwise (Fig.4). Remove the key from the instrument panel.
- 6. Carry out all the procedures listed in the paragraph "ROUTINE MAINTENANCE" on page 21, indicated in the column entitled "AT THE END OF THE WORK".
- 7. Sit on the driver's seat.
- 8. Insert the key (4) into the main switch on the control panel.
- 9. Turn on the machine and turn the key (4) a quarter turn clockwise (Fig.5).
- 10. Press the drive pedal (3) (Fig.3) to begin moving the machine.
- 11. 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.

12. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.



ROUTINE MAINTENANCE

INTERVAL	MACHINE COMPONENTS	PROCEDURE
DAILY; BEFORE A LONG PERIOD OF INACTIVITY	Squeegee	Clean the vacuum chamber; the squeegee rubber blades; the suction nozzle (read the paragraph "CLEANING THE SQUEEGEE BODY" on page 22).
	Scrubbing brush head body brushes	Clean the brush in the scrubbing brush head body (see paragraph "CLEANING THE BRUSH HEAD BODY BRUSH" on page 23).
		At the end of every working day, empty the recovery tank (see paragraph "DRAINING THE RECOVERY TANK" on page 22).
	Recovery tank	At the end of each working day, after emptying the recovery tank, clean the filters in the vacuum system (see paragraph "CLEANING THE RECOVERY TANK FILTER-FLOAT" on page 22).
	Solution tank	At the end of every working day, empty the solution tank (see paragraph "EMPTYING THE SOLUTION TANK" on page 23).
WEEKLY	Machine water system	Clean the filter of the machine's water system (see paragraph "CLEANING THE WATER SYSTEM FILTER" on page 23).
		Check that the vacuum duct at the rear of the machine is has been cleaned correctly (see paragraph "CLEANING THE VACUUM TUBE" on page 23).
	Machine vacuum unit	Check the rubber blades in the squeegee body to ensure that they are intact and assess the state of wear; replace them if necessary (see paragraph "REPLACING THE SQUEEGEE BODY RUBBER BLADES" on page 24).
	Scrubbing brush head body brushes	Check the brush in the scrubbing brush head body to ensure it is intact and check for wear; replace it if necessary (see paragraph "REPLACING THE BRUSH HEAD BODY BRUSH" on page 24).
MONTHLY Squeegee rubber blade levelling Check that the rubber blades in the squeegee body are level; adjust the necessary (see paragraph "ADJUSTING THE SQUEEGEE BODY'S BLADES" on page 25).		Check that the rubber blades in the squeegee body are level; adjust them if necessary (see paragraph "ADJUSTING THE SQUEEGEE BODY'S RUBBER BLADES" on page 25).





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

1. Take the machine to the maintenance area.



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

2. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.

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

DRAINING THE RECOVERY TANK

Proceed as follows to empty the recovery tank:

- 1. Release the recovery tank drainage tube (1) (at the back of the machine) from the retainers (Fig.1).
- 2. Bend the end of the drainage tube in order to create a choke and prevent the content from coming out (Fig.2), then position the tube on the discharge surface, unscrew the cap, and gradually release the tube.
- 3. Repeat the operations in reverse order to reassemble all the parts.

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. Stand at the back of the machine.
- 2. Remove the vacuum tube (2) from the sleeve in the vacuum nozzle (3) (Fig.3).
- 3. Unscrew the knobs (4) in the squeegee body pre-assembly (Fig.4).
- 4. Remove the squeegee body from the slits in the squeegee connector.
- 5. Use a jet of water and then a damp cloth to thoroughly clean the vacuum chamber (5) of the squeegee body (Fig.5).
- 6. Use a jet of water and then a damp cloth to thoroughly clean the front rubber blade (6) of the squeegee body (Fig.6).
- 7. Check the wear of the front rubber blade (6) on the squeegee body; if the edge of the rubber that is in contact with the floor is worn, replace it. See paragraph "REPLACING THE SQUEEGEE BODY RUBBER BLADES" on page 24.
- 8. Use a jet of water and then a damp cloth to thoroughly clean the rear rubber blade (7) of the squeegee body (Fig.7).
- Check the wear of the rear rubber blade (7) on the squeegee body; if the edge of the rubber in contact with the floor is worn, replace it. See paragraph "REPLACING THE SQUEEGEE BODY RUBBER BLADES" on page 24. However, the rubber can be turned onto another of its 4 edges.
- 10. Unscrew the knobs (8) that fix the vacuum nozzle (3) to the squeegee unit (Fig.8).
- 11. First with a jet of water and then with a damp cloth, thoroughly clean the vacuum nozzle (3). Also clean the squeegee body support surface.
- 12. Repeat the operations in reverse order to reassemble all the parts.

CLEANING THE RECOVERY TANK FILTER-FLOAT

Careful cleaning of the recovery tank filter-float guarantees better cleaning of the floor as well as a longer suction motor lifespan. Proceed as follows to clean the recovery tank filter-float:

- 1. Remove the recovery tank cover (9) by turning anticlockwise (Fig.9).
- 2. Unscrew the floating cover (10) (Fig.10).
- 3. Remove the vacuum filter (11) and clean it (Fig.11).

N.B.: you are advised to use a jet of air to remove the impurities before cleaning the filter. Position the filter at least 20cm from the air jet.

ATTENTION: do not use highly corrosive products to clean the filter, to avoid damaging it.

4. Unscrew the upper body of the float (12) (Fig.12).

N.B.: when removing the upper part of the float, be very careful not to remove the lower part as well.

5. Remove the float (13) (**Fig.13**). Rinse the inside with a jet of water. If necessary, use a spatula to remove the sludge that has accumulated at the bottom of the float.



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N.B.: If the polyurethane ring on the float body (Fig.13) is excessively worn or damage contact the nearest service centre.

6. Repeat the operations in reverse order to reassemble all the parts and move on the second float filter.



CLEANING THE BRUSH HEAD BODY BRUSH

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. Stand on the left side of the machine.
- 2. Grip the handle (14) and turn the recovery tank to its maintenance position (Fig.14).
- 3. Connect the battery connector from the main machine system connector (Fig.15).

ATTENTION: It is recommended that the electrical connection operations be carried out by specialised and trained personnel.

4. Grip the handle (14) and turn the recovery tank to its working position (**Fig.16**).

- 5. Sit on the driver's seat.
- 6. Move the main switch to position "I" and turn the key (15) a quarter turn clockwise (Fig.17).
- 7. The first time the button (16) in the handlebars (Fig.18) is pressed, a confirmation request ("UNLOCK?") will appear on the display.
- 8. Pressing the button (16) again will activate the brush unlock function.

1) N.B.: Once the unlock sequence has been activated, it is not possible to activate other functions or move the machine.



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

9. Clean the brush under a stream of running water to remove any impurities from its bristles. Check the wear status of the bristles and replace the brushes if they are excessively consumed (the bristles' protrusion must not be less than 10 mm; this distance is indicated on the brush by the yellow band). See paragraph "ASSEMBLING THE BRUSH HEAD BODY BRUSH" on page 15 for information on replacing the brush.

CLEANING THE RECOVERY TANK

To clean the recovery tank, proceed as follows:

- 1. Release the recovery tank drainage tube (1) at the back of the machine from the retainers (Fig.1), unscrew the cap and place it on the ground (Fig.2).
- 2. Remove the recovery tank cover (9) by turning anticlockwise (Fig.9).
- 3. Rinse the inside with a jet of water, if necessary use a spatula to remove the sludge that has accumulated at the bottom of the tank.
- 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. Release the solution tank drainage tube (17), on the left-hand side of the machine, from the retainers (Fig.19). Remove the cap and place it on the ground.
- 2. When the solution tank is empty, repeat the operations in the reverse order to reassemble all the parts.

CLEANING THE VACUUM TUBE

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

- 1. Remove the vacuum tube (2) from the vacuum nozzle (3) on the squeegee body (Fig.3).
- 2. Remove the vacuum tube (2) via the hole on the back of the recovery tank (Fig.20).
- 3. The vacuum tube from the retainers present inside the recovery tank.
- 4. Rinse the inside of the vacuum tube with a jet of running water.
- 5. Repeat the operations in reverse order to reassemble all the parts.

CLEANING THE WATER SYSTEM FILTER

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

- 1. Close the tap's output flow, and shift the knob (18) on the right hand side of the steering column (Fig. 21) downward.
- 2. Move to the front right-hand side of the machine and unscrew the detergent solution filter cap (19) (Fig. 22) and remove the cartridge in the filter body.
- 3. Rinse the filter cartridge under a jet of water, and use 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



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

1. Take the machine to the maintenance area.



2. Secure the machine, see paragraph "MACHINE SAFETY" on page 12.

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

REPLACING THE SQUEEGEE BODY RUBBER BLADES

Ensuring the integrity of the rubber blades in the squeegee body ensures better floor cleaning and drying results, as well as a longer service life for the suction motor.

- 1. Stand at the back of the machine.
- 2. Remove the vacuum tube (1) from the sleeve in the vacuum nozzle (2) (Fig.1).
- 3. Unscrew the knobs (3) in the squeegee body pre-assembly (**Fig.2**).
- 4. Remove the squeegee body from the slits in the squeegee connector (Fig.3).

Proceed as follows for replacing the front rubber blade of the squeegee body:

- 5. Turn the wing nuts (4) into the horizontal position (Fig.4) and remove the front rubber blade compression plates (5) (Fig.5).
- 6. Remove the worn front rubber blade and replace it with the new one.
- 7. Repeat the operations in reverse order to reassemble all the parts.

Proceed as follows for replacing the rear rubber blade of the squeegee body:

- 8. Turn the wing nuts (6) into the horizontal position (Fig.6) and remove the front rubber blade compression plates (7) (Fig.7).
- 9. Remove the worn rear rubber blade and replace it with the new one.
- 10. Repeat the operations in reverse order to reassemble all the parts.

N.B.: Before returning to work, adjust the squeegee body, see paragraph "ADJUSTING THE SQUEEGEE BODY'S RUBBER BLADES" on page 25.

REPLACING THE BRUSH HEAD BODY BRUSH

Ensuring the integrity of the brush will guarantee better floor cleaning results, and will extend the service life of the brush head's gearmotor. To replace the brush, proceed as follows:

- 1. Stand on the left side of the machine.
- 2. Grip the handle (8) and turn the recovery tank to its maintenance position (Fig.8).
- 3. Connect the battery connector from the main machine system connector (Fig.9).

ATTENTION: It is recommended that the electrical connection operations be carried out by specialised and trained personnel.

4. Grip the handle (8) and turn the recovery tank to its working position (Fig.10).

- 5. Sit on the driver's seat.
- 6. Move the main switch to position "I" and turn the key (9) a quarter turn clockwise (Fig.11).
- 7. The first time the button (16) in the handlebars (Fig.18) is pressed, a confirmation request ("UNLOCK?") will appear on the display.
- 8. Pressing the button (10) again will activate the brush release function.

N.B.: Once the unlock sequence has been activated, it is not possible to activate other functions or move the machine.

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



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 squeegee body blades, proceed as follows:

- 1. Sit on the driver's seat.
- 2. Insert the key (1) into the main switch on the control panel. Set the main switch to "I" (Fig.1).
- 3. Lower the squeegee body, turn the lever (2) on the back of the steering column anticlockwise (Fig.2).
- 4. Press the drive pedal (3) (**Fig.3**) to begin moving the machine.

N.B.: Once the squeegee body has reached its working position, the suction motor will enter into function.

5. As soon as the squeegee body is in the working position, secure the machine, see paragraph"MACHINE SAFETY" on page 12.

🚯 ATTENTION: It is recommended to wear the appropriate PPE (Personal Protective Equipment), suitable for the work to be carried out.

- 6. Stand at the back of the machine.
- 7. Loosen the lock nut (4) on the squeegee tilt adjustment screw (5) (Fig.4).
- To adjust the inclination of the squeegee body rubber blades with respect to the floor, tighten or loosen the screw (6) until the squeegee body rubber blades are bent towards the outside evenly along the entire length by about 30° with respect to the floor (Fig.5).

N.B.: Turning the screw (5) clockwise will increase the tilt of the squeegee body towards the rear of the machine, turn in the opposite direction to rotate the squeegee towards the front of the machine.

9. Once the adjustment has been completed, tighten the lock nut (4) on the squeegee tilt adjustment screw (5) (Fig.4).

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



NO. OF BRUSHES	CODE	TYPE OF BRISTLES	Ø BRISTLES	NOTES
1	436232	PPL	0,3	DISC BRUSH Df=400mm De=560mm (BLUE)
1	436233	PPL	0.6	DISC BRUSH Df=400mm De=560mm (WHITE)
1	436234	PPL	0.9	DISC BRUSH Df=400mm De=560mm (BLACK)
1	436235	TYNEX	1	DISC BRUSH Df=400mm De=560mm (GREY)
1	449913	TAMPICO	-	DISC BRUSH Df=400mm De=560mm
1	436236	-	-	BRUSH PAD HOLDER Df=535mm (WITH CENTER LOCK)

DISPOSAL



Dispose of the machine in accordance with the waste disposal regulations in force in the country in which the machine is being used.

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 main switch is set to "0".	Make sure that the main switch is set to "I".
	An alarm message has appeared on the control display.	Stop the machine immediately, and contact a specialised service centre.
THE MACHINE DOES NOT	The batteries are not correctly connected to each other.	Rotate the recovery tank to the maintenance position and check that the batteries are properly connected to each other; if not, see paragraph "CONNECTING THE BATTERIES TO THE MACHINE'S ELECTRICAL SYSTEM" on page 13.
	The batteries are not correctly connected to the machine's electrical system.	Rotate the recovery tank to the maintenance position and check that the batteries are properly connected to the machine's electrical system; if not, see paragraph "CONNECTING THE BATTERIES TO THE MACHINE'S ELECTRICAL SYSTEM" on page 13.
	The battery charge level is low.	Perform a complete charge cycle; see paragraph "RECHARGING THE BATTERIES" on page 13.
	The connector of the battery charger cable is not properly inserted in the battery connector.	Stop the machine immediately, and contact a specialised service centre.
THE BATTERIES ARE NOT	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.
CHARGED CORRECTLY	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 dung 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 charge cycle; see paragraph "RECHARGING THE BATTERIES" on page 13.
	The machine does not start.	Read the section THE MACHINE DOES NOT START.
THE MACHINE DOES NOT	The electrobrake is not engaged.	Engage the electrobrake by turning the lever on the traction motor.
MOVE	There is an issue on the drive pedal.	Stop the machine immediately, and contact a specialised service centre.



PROBLEM	POSSIBLE CAUSE	SOLUTION
INSUFFICIENT DETERGENT SOLUTION ON THE BRUSHES	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 that the detergent solution filter is not clogged; if it is, clean it. See paragraph "CLEANING THE WATER SYSTEM FILTER" on page 23.
	The machine does not start.	Read the section THE MACHINE DOES NOT START.
	Not enough detergent solution comes out.	Read the section INSUFFICIENT DETERGENT SOLUTION ON THE BRUSHES.
THE MACHINE DOES NOT	The brushes have not been inserted correctly in the machine.	Check that the brushes are correctly inserted inside the machine (see paragraph "ASSEMBLING THE BRUSH HEAD BODY BRUSH" on page 15).
CLEAN CORRECTLY	The type of brush used is not suitable for the dirt to be cleaned.	Check that the brushes on the machine are adequate for the work to be carried out, contact a technician from the specialist assistance centre for advice.
	The brush bristles are excessively worn.	Check the state of wear of the brush and, if necessary, replace it. See paragraph "REPLACING THE BRUSH HEAD BODY BRUSH" on page 24.
		Check that the squeegee is free from obstructions. See paragraph "CLEANING THE SQUEEGEE BODY" on page 22.
	The vacuum unit is obstructed.	Check that the vacuum tube is free from obstructions. See paragraphs "CLEANING THE SQUEEGEE BODY" on page 22 and"CLEANING THE VACUUM TUBE" on page 23).
THE SQUEEGEE DOES NOT DRY PERFECTLY		Check that the recovery tank filter-float is free from obstructions. See paragraph "CLEANING THE RECOVERY TANK FILTER- FLOAT" on page 22.
	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	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.
PRODUCTION	The floor is not very dirty.	Dilute the detergent more.
THE MACHINE DOES NOT	The recovery tank is full.	Empty the recovery tank, see paragraph "DRAINING THE RECOVERY TANK" on page 22.
VACUUM CORRECTLY	The vacuum device is obstructed	Read the section THE SQUEEGEE DOES NOT DRY PERFECTLY.



UKCA DECLARATION OF CONFORMITY

The undersigned manufacturer: COMAC-FIMAP (Shanghai) Co., Ltd. 科迈柯菲迈普(上海)机械有限公司 Through the trustee appointed under the European Community Industrial Cleaning Equipment Ltd. declares under its sole responsibility that the products

FLOOR SCRUBBING MACHINES

model E55 R PLUS

comply with the provisions of Directives:

- Supply of Machinery (Safety) Regulations 2008.
- Electromagnetic Compatibility Regulations 2016.

They also comply with the following standards:

- BS EN 60335-1:2012+A2:2019
- BS EN 60335-2-72:2012
- BS EN 12100:2010
- BS EN IEC 61000-6-2:2019
- BS EN 61000-6-3:2007+A1:2011
- BS EN 62233:2008

The person authorized to compile the technical file:

Mr. Mark Bresnihan Sauber House, Unit 3, Rushington Business Park Chapel Lane, Totton, Hampshire, SO40 9AH

Chapel Lane, 2022/03/18

Industrial Cleaning Equipment Ltd. Legal representative

Mark Bresnihan

Manufacturer: COMAC-FIMAP (Shanghai) Co., Ltd. 科迈柯菲迈普(上海)机械有限公司 Building 2,No.299 Dongye road,Dongjing Town,Songjiang,Shanghai 上海市松江区洞泾镇洞业路299号2栋 201619 Website: www.comac.it; www.fimap.com

Mandatory: Industrial Cleaning Equipment Ltd. Sauber House, Unit 3, Rushington Business Park Chapel Lane, Totton, Hampshire, SO40 9AH Tel. 0800 389 3869 - Fax. 023 8042 8318 E-mail: info@ice-clean.com Web:www.ice-clean.com



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- BS EN 60335-2-29:2004+A11:2018
- BS EN IEC 61000-6-2:2019
- BS EN 61000-6-3:2007+A1:2011
- BS EN IEC 61000-3-2:2019
- BS EN IEC 61000-3-3:2019
- BS EN 55014-1:2017+A11:2020
- BS EN 55014-2:2015
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Manufacturer: COMAC-FIMAP (Shanghai) Co., Ltd. 科迈柯菲迈普(上海)机械有限公司 Building 2,No.299 Dongye road,Dongjing Town,Songjiang,Shanghai 上海市松江区洞泾镇洞业路299号2栋 201619 Website: www.comac.it; www.fimap.com Mandatory:

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Industrial Cleaning Equipment Ltd. Sauber House, Chapel Ln, Totton, Southampton SO40 9AH United Kingdom United Kingdom United Kingdom United Kingdom United Kingdom Mage: Mage: