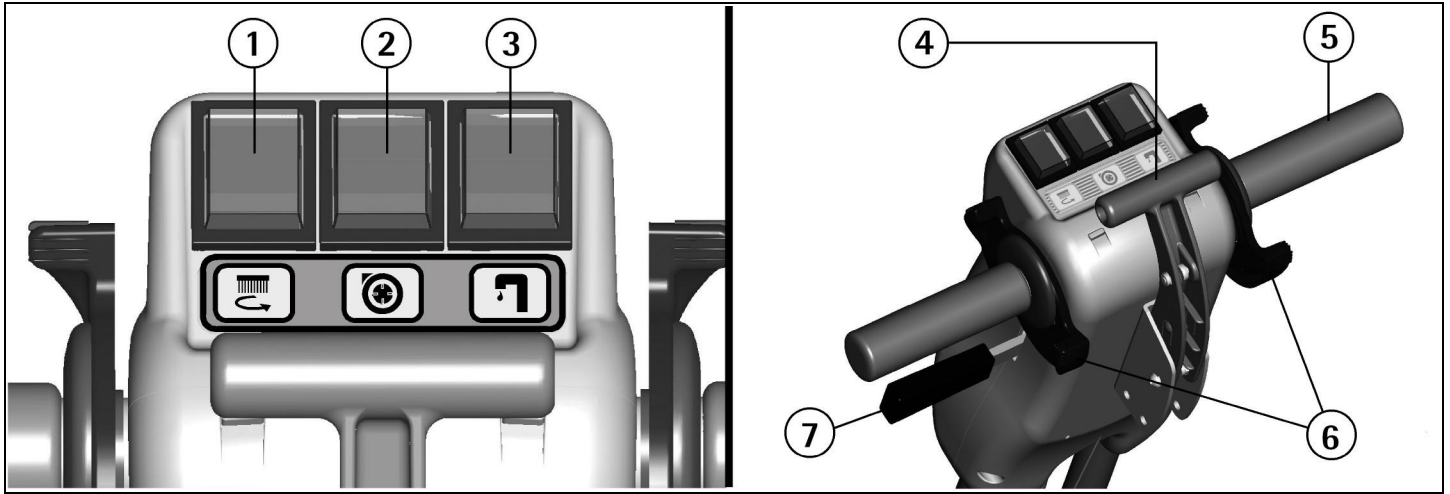


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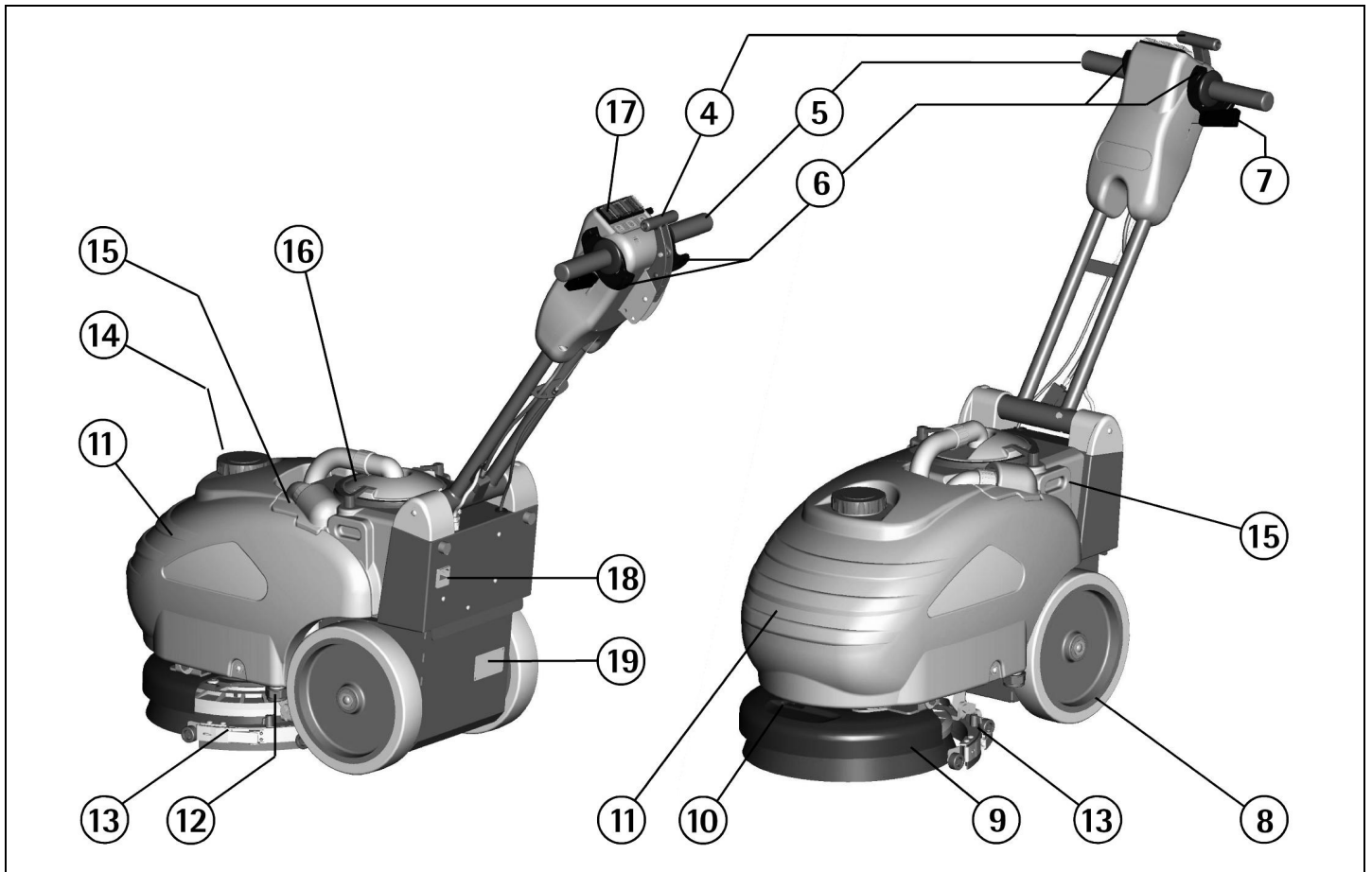
LEGEND INSTRUMENT BOARD AND CONTROLS

- 1. BRUSH MOTOR SWITCH WITH SIGNAL LAMP
- 2. SUCTION MOTOR SWITCH WITH SIGNAL LAMP
- 3. SOLENOID VALVE SWITCH WITH SIGNAL LAMP
- 4. SQUEEGEE LIFT LEVER
- 5. HANDLE BARS
- 6. SCRUB CONTROL LEVERS
- 7. HANDLE BAR RELEASE LEVER



LEGEND MACHINE

- 8. WHEELS
- 9. BRUSH BASE ASSEMBLY
- 10. SOLUTION FLOW ADJUSTMENT
- 11. SOLUTION TANK
- 12. DRAIN PLUG SOLUTION TANK
- 13. SQUEEGEE ASSEMBLY
- 14. FILLING CAP FOR SOLUTION TANK
- 15. RECOVERY TANK
- 16. SUCTION COVER
- 17. INSTRUMENT BOARD
- 18. MAINS PLUG FOR ELECTRIC CABLE
- 19. SERIAL NUMBER PLATE



TECHNICAL DESCRIPTION		
Cleaning width	mm	345
Squeegee width	mm	410
Power supply	V	230
Frequency rate	Hz	50
Power rating	W	650
Working capacity, up to	sqm/h	1240
Brush diameter	mm	345
Brush rpm	rpm	145
Brush pressure (max)	kg	30
Suction vacuum	mbar	70
Type of drive		semi automatic
Maximum gradient	%	2
Capacity solution tank	l	12.5
Capacity recovery tank	l	13.5
Machine length (min)	mm	685
Machine height	mm	490
Machine width	mm	415
Machine weight (empty)	kg	44
Acoustic pressure level (in conformity with EN604_01)	dB (A)	< 70
Mains cable (length)	m	20
Class		I
Protection level	IP	23

INTRODUCTORY COMMENT

Thank you for having chosen our machine. This floor cleaning machine is used for the commercial cleaning and is able to clean most types of hard floor, except carpet cleaning (if unsure please consult your floor manufacturer/supplier). During its forward movement, the combined action of the brush and the detergent solution removes the dirt which is recovered through the rear suction assembly, giving a perfectly dry surface. The machine must be used only for such purpose. It gives the best performance if it is used correctly and maintained in good condition. We therefore ask you to read this instruction booklet carefully whenever difficulties arise in the course of the machine's use. In case of need, we ask you to contact our service department for all advice and servicing as may prove necessary.

GENERAL RULES OF SAFETY

The rules below have to be followed carefully in order to avoid injury to the operator and damage to the machine.

- Read the labels carefully on the machine.
- Do not cover them for any reason and replace them immediately if damaged.
- The machine must be used exclusively by authorized staff that have been instructed on its correct and proper use.
- During the operation of the machine, pay attention to other people and especially to the children.
- In the presence of children guard the machine, so that they do not play with it.
- Do not touch or pass over the mains cable while the brush is operating.
- The socket for the power supply must be equipped with a standard earthing (ground) system.
- Do not damage the mains cable by squashings, bendings or stressings.
- Check the integrity of the mains cable. If during working a damage is noticed, stop the machine immediately and replace the cable.
- Do not mix different detergents, avoiding harmful odours.
- Storage temperature: between 0°C and +55°C.
- Perfect operating temperature: between 0°C and 40°C.
- The humidity should not exceed 95%.
- Do not use the machine in explosive atmosphere.
- Do not use the machine as a means of transport.
- Do not go up or down the stairs.
- Do not use acid solutions which could damage the machine and/or the persons.
- Avoid brush operation when the machine is standing still in order to prevent floor damages.
- Do not use the machine on surfaces covered with inflammable liquids or dusts (for example hydrocarbons, ashes or soot).
- In case of fire, use a powder based fire-extinguisher. Do not use water.
- Do not strike shelvings or scaffoldings where there is danger of falling objects.
- Do not use the machine on areas having a higher gradient than the one stated on the number plate.
- The machine has to carry out simultaneously the operations of washing and drying. Different operations must be carried out in restricted areas prohibited to non-authorized personnel and the operator has to wear suitable shoes.
- Signal the areas of moist floors with suitable signs.
- If the machine does not work properly, check by conducting simple maintenance proce-

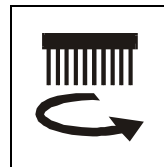
dures. Otherwise, as for technical advice from an authorized assistance centre.

- Where parts are required, ask for ORIGINAL spare parts from the distributor and/or from an authorized dealer.
- Use only ORIGINAL brushes indicated in the paragraph "RECOMMENDED BRUSHES".
- For any cleaning and/or maintenance operation take off the power supply from the machine.
- Do not take off the protections which require the use of tools for their removal.
- Do not wash the machine with direct water jets or with high water pressure nor with corrosive material.
- Every 200 working hours have a machine check by an authorized service department.
- Before using the machine, check that all panels and coverings are in their position as indicated in this use and maintenance catalogue.
- Restore all electrical connections after any maintenance operation.
- Provide for the scrapping of the material of normal wear (brushes, squeegee blades etc.) following strictly the respective rules.
- When your machine has to stop activity, provide for the appropriate waste disposal of its materials, especially oils and electronic components, and considering that the machine itself has been, where possible, constructed using recyclable materials.

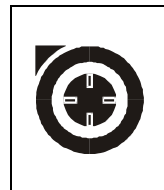
SYMBOLOLOGY



Symbol denoting the solution valve. Indicates the switch and the signal lamp of the solenoid valve.



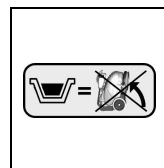
Symbol denoting the brush. Indicates the switch and the signal lamp of the brush motor.



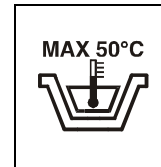
Symbol denoting the suction motor. Indicates the switch and the signal lamp of the suction motor.



Symbol that indicates the position of the outlet plug of the solution tank.



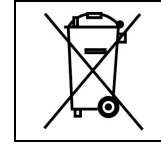
This symbol indicates that tanks are to be emptied before rotating the machine.



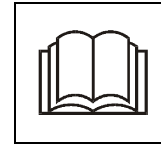
Indication of the maximum temperature of the solution detergent.



Symbol that indicates the flow adjuster of the detergent solution.



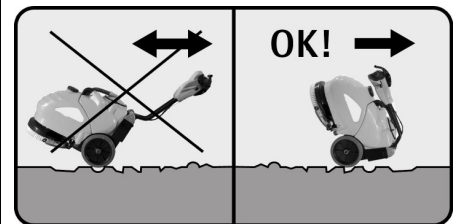
Symbol denoting the crossed bin. Indicates that at the end of its activity, the machine has to be disposed conforming to the laws in force.



Symbol denoting the open book. Indicates that the operator has to read the manual before the use of the machine.



Warning symbol. Read carefully the sections marked with this symbol, for the security of both the operator and the machine.



Symbol denoting the correct mode to transfer the machine on uneven surfaces.

BEFORE USE

HANDLING OF THE PACKED MACHINE

The machine is supplied with suitable packing. The total weight is 50 kg (max).

Packing dimensions:

without pallet:

Base: 80 cm x 43 cm Height: 65 cm

with pallet:

Base: 80 cm x 43 cm Height: 75 cm

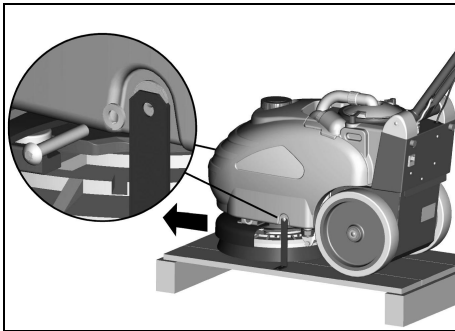


ATTENTION:

Do not stack more than 2 machines.

UNPACKING OF THE MACHINE

1. Remove the outer package.
2. Loosen the two nuts that fix the two brackets to the machine.
3. Unscrew the screws that fix the brackets to the pallet and remove the brackets.
4. Retighten the two nuts into their initial position onto the machine, necessary for the tank blocking.
5. Bring the handle bar into working position (see under "MOVEMENTS OF THE HANDLE BAR") to lower the machine from the pallet and pushing it forwards by the wheels inclining the machine a little backwards to avoid heavy contacts to the mechanical parts.
6. Keep the packaging for eventual transport needs.



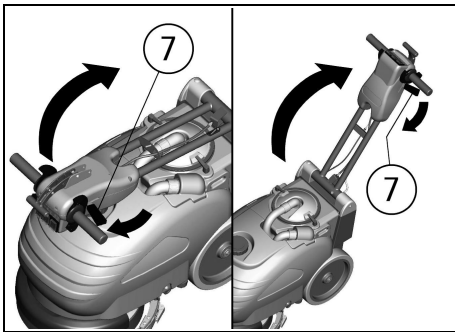
MOVEMENTS OF THE HANDLE BAR

The handle bar in the package arrives in closed position.

To rotate the handle bar into one of the different working positions:

1. Pull up the release lever (7) near the handle bars.
2. Rotate the handle bar into the working position while holding the release lever (7).
3. Let go of the release lever (7) to lock the handle bar.

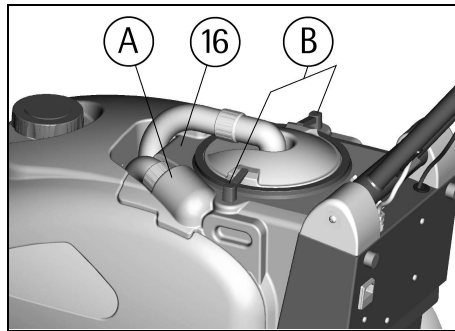
Use the same procedure for further height adjustment of the handle bar in order to find the most comfortable working position.



RECOVERY TANK

Check that the cover of the suction filter (16) is correctly secured, after rotating the levers

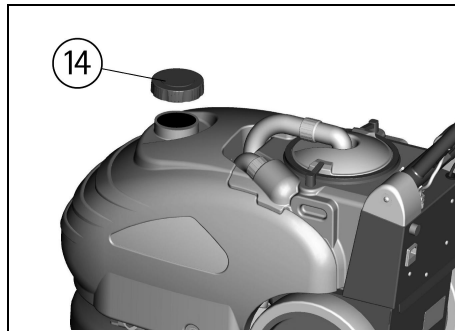
(B). Furthermore, check that the squeegee hose is correctly seated in its seat (A).



SOLUTION TANK

The capacity of the solution tank is indicated in the technical data.

Open the screw plug (14) situated on top and fill the solution tank with clean water at a maximum temperature of 50°C. Add the liquid detergent in the percentage recommended by the manufacturer. To avoid excessive foaming, which could cause problems to the suction motor, use the minimum percentage of detergent. Screw down the plug to close the tank.



ATTENTION:

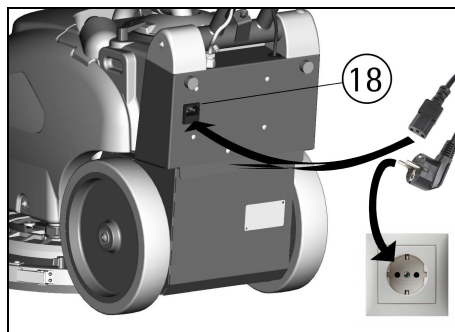
Use always low foam detergent. To avoid excessive foaming, before starting working operation, add into the recovery tank a minimum quantity of anti-foam agent. Never use acid.

FLOOR CLEANING

STARTING OF THE MACHINE

The machine is equipped with a mains cable complete with a plug for the connection to the mains system and with a socket connector to insert inside the plug (20) situated behind the machine.

1. Insert the socket inside the machine plug (18).
2. Insert the plug into the appropriate mains socket.



3. Lower the squeegee by rotating downwards the handle of the squeegee lifting lever (4) placed in the centre of the handle bar.

4. Press the switch for the brush motor (1).

5. Press the switch for the suction motor (2).

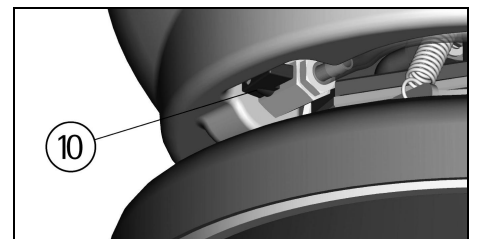
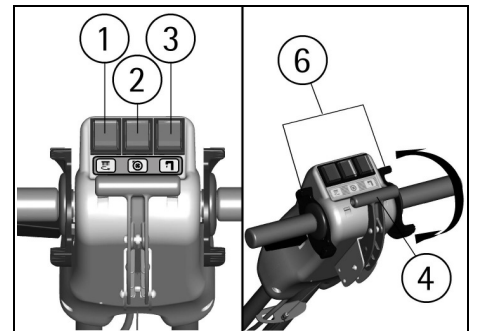
6. Press the switch for the solenoid valve (3).

The machine is equipped with a solenoid valve, which activates the solution flow automatically when the scrub control levers (6) are engaged. Releasing these levers will stop the flow automatically.

7. Activating the levers (6) the brush will start rotating. The solution flow begins and the squeegee will start drying the floor.

8. During the first few meters check that the solution flow is appropriate. The flow adjuster of the solution is already adjusted at the factory to satisfy the cleaning of most floors. If it is necessary to adjust the quantity of solution onto the floor, adjust the lever of the flow adjuster (10).

9. When moving the machine backwards, make sure that the squeegee is lifted.



HANDLE BAR ADJUSTMENT

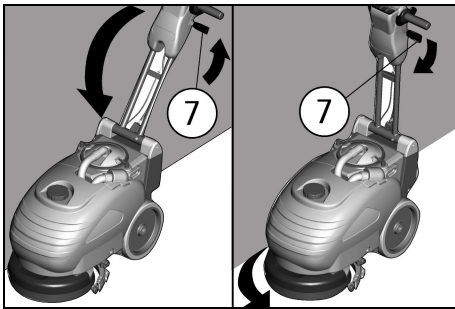
When approaching obstacles or near walls, it is possible to simplify the handling of the machine by adjusting the handle bar more vertically with respect to the machine.

To rotate the handle bar:

1. Pull up the release lever (7) near the handle bars.
2. Rotate the handle bar into the new working position keeping the release lever (7) pulled.
3. Release the lever (7) to lock the handle bar in the desired position.

Once the obstacle has been passed and the maneuver completed repeat the operation to return to the previous working position.

This operation is possible also with the machine in motion maintaining pressed contemporarily the handle bar levers (6) and the release lever (7).



OVERFILL PROTECTION

In order to avoid serious damages to the suction motor, the machine is equipped with a float that intervenes when the recovery tank is full, closing the suction hose and stopping the suction.

When this happens, it is necessary to empty the recovery tank.

1. Switch off the machine pressing all the switches and take off the plug from the mains socket.

2. Take off the suction filter cover (16) after turning the blocking levers (B).

3. Take off the squeegee hose from its seat (A).

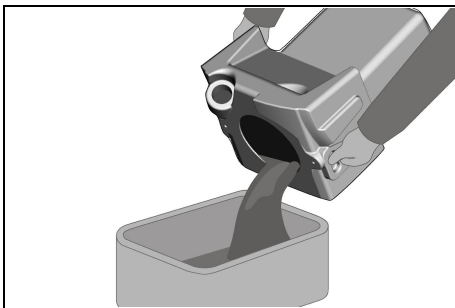
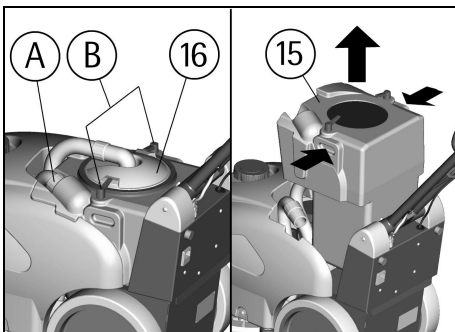
4. Lift and remove the recovery tank (15) holding it from the provided handles on the tank sides.

Empty the recovery tank into appropriate containers, according to the standard norms for the liquid disposal.

5. Reassemble everything.



ATTENTION:
This operation should be carried out wearing gloves to prevent contact with dangerous solutions.



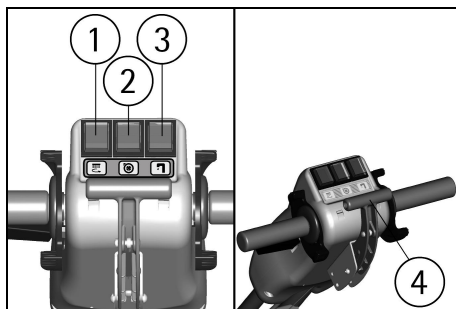
STOPPING THE MACHINE AFTER CLEANING OPERATION

Before carrying out any type of maintenance:

1. Switch off the machine pressing all the switches and take off the plug from the mains socket.

2. Lift the squeegee rotating upwards the lever (4) placed in the centre of the handle bar.

3. Move the machine to an appropriate place for tank draining.



ATTENTION:
The machine is not equipped with a parking brake, therefore do not leave it on slopes.

DAILY MAINTENANCE

EMPTYING AND CLEANING OF THE RECOVERY TANK

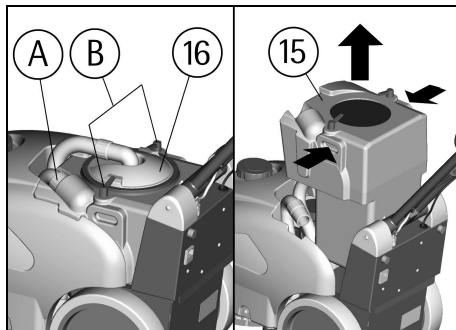
To empty and clean the recovery tank.

1. Switch off the machine pressing all the switches and take off the plug from the mains socket.

2. Take off the suction cover (16) after rotating the blocking levers (B).

3. Take off the squeegee hose (A) from the seat.

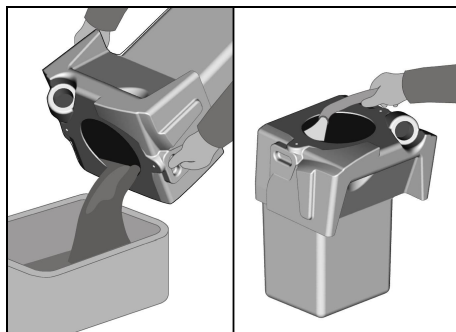
4. Lift and take off the recovery tank (15) holding it from the provided handles located on the tank sides.



Empty the recovery tank into appropriate containers, according to the standard norms for the liquid disposal.

5. Rinse and clean the tank.

6. Reassemble everything.



ATTENTION:

This operation should be carried out wearing gloves to prevent contact with dangerous solutions.

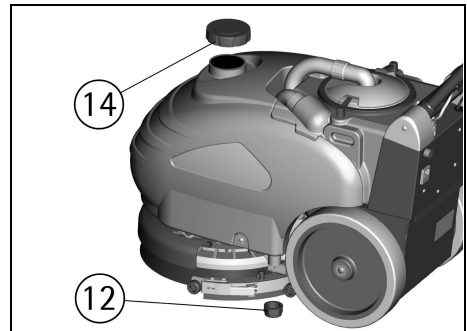
EMPTYING AND CLEANING OF THE SOLUTION TANK

To empty the solution remained in the solution tank:

1. Switch off the machine pressing all the switches and take off the plug from the mains socket.

2. Unscrew the filling cap (14) of the solution tank.

3. Unscrew the drain plug (12) placed in the rear low left part of the machine.



ATTENTION:
This operation should be carried out wearing gloves to prevent contact with dangerous solutions.

SUCTION FILTER CLEANING

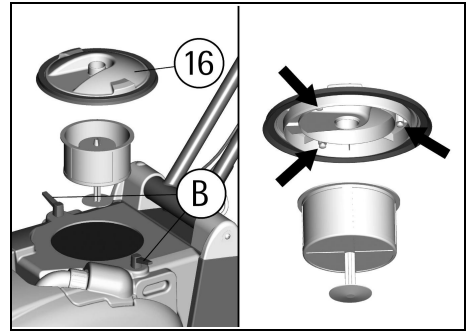
1. Take off the suction cover (16) after rotating the blocking levers (B).

2. Take off the filter with the float bending the filter edge to release it from the screws present on the cover.

3. Clean all parts with a water jet and especially the surfaces and the filter bottom.

4. Carry out carefully the cleaning operations.

5. Reassemble everything.



VERTICAL POSITIONING OF THE MACHINE

The machine has to assume a vertical positioning tipped over at the back after having folded the handle bar onto the machine.

This position allows the unit to be stored in a small space and simplifies maintenance operations.

To rotate the machine it is necessary to:

1. Switch off the machine pressing all the switches and take off the plug from the mains socket.

2. Check that both tanks are empty, otherwise provide to empty them (see under "EMPTYING AND CLEANING OF THE RECOVERY

TANK" and "EMPTYING AND CLEANING OF THE SOLUTION TANK").

3. Pull up on the handle bar release lever (7) near the handle bar.

4. Rotate the handle bar towards the tanks keeping the release lever (7) pulled.

5. Release the lever (7) to lock the handle bar.

6. Position yourself on the right side of the machine.

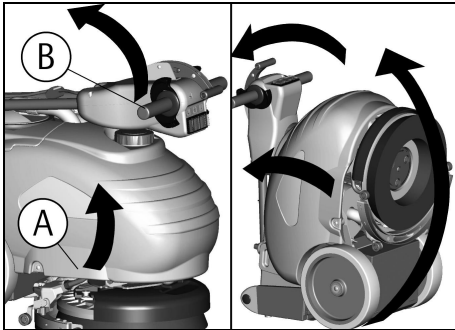
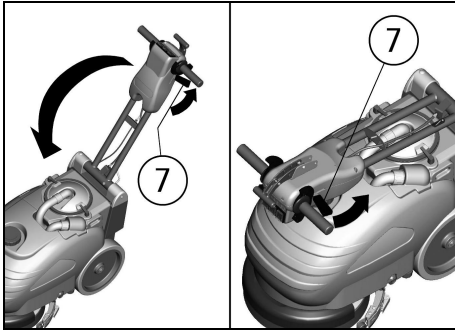
7. Hold the machine with both hands in point (A) of the tank side and (B) from the handle bar as indicated in the figure.

8. Lift the front part of the machine rotating it on the rear wheels and bringing it into the vertical position as shown in the figure.



ATTENTION:

The position of the vertical parking is indicated when you expect not to use the machine for a period of more than 2/3 days, to avoid that the weight of the machine may damage the brush compromising hence the correct functioning of the machine.



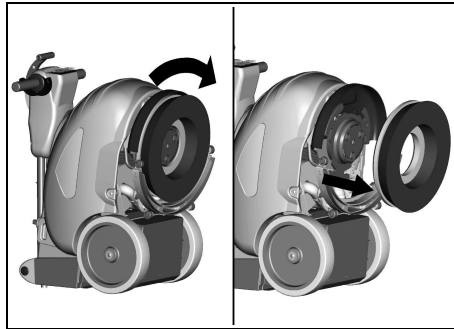
BRUSH CLEANING

Remove the brush and clean it with a water jet (for the disassembly see under "BRUSH REMOVAL/ FITTING").

BRUSH REMOVAL/FITTING

1. Tip the machine over backwards (see under "VERTICAL POSITIONING OF THE MACHINE") paying attention to remember to switch off the machine pressing all the switches and take off the plug from the mains socket.

2. With the machine in this position rotate the brush clockwise, as indicated in the figure, until it is released from their seats of the brush holder plate.

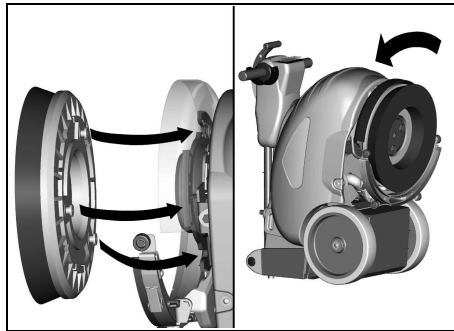


3. To reassemble the brush insert the coupling buttons into the slots of the brush holder plate and rotate counterclockwise until it locks.



ATTENTION:

The handling of the brush operation must be carried out wearing suitable gloves to protect both mechanically from contact with the bristles and the chemical risk of contact with dangerous solutions.

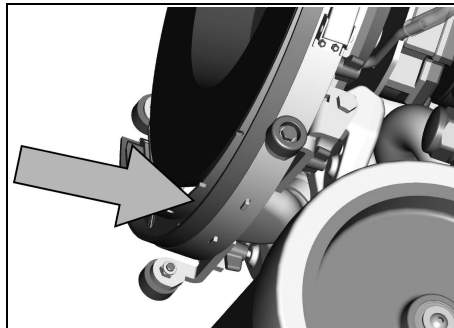


SQUEEGEE CLEANING

Keeping the squeegee clean guarantees the best drying action.

1. Tip over the machine backwards (see under "VERTICAL POSITIONING OF THE MACHINE") paying attention to remember to switch off the machine pressing all the switches and take off the plug from the mains socket.

2. With the machine in this position take care to clean both the rubber squeegee blades and particularly the suction inlet. Also remove any fibres (string or hair) that can prevent the support turning freely.



ORDINARY MAINTENANCE

BRUSH REPLACEMENT

The brush has to be replaced when the bristles have reached a length of 10 mm. It is possible to use also other brush types, depending on the type and dirt of floor to be cleaned (see under "RECOMMENDED BRUSHES").

Remove the old brush and replace it with a new one (see under "BRUSH REMOVAL/FITTING").

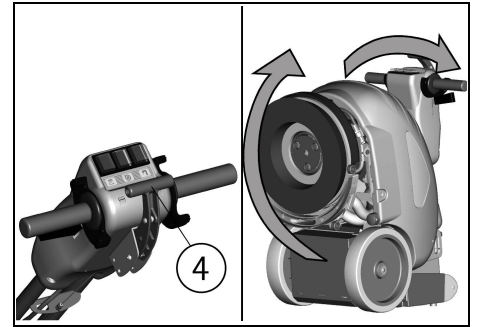
REAR SQUEEGEE RUBBER REPLACEMENT

Check the squeegee rubber wear and eventually turn or replace it.

For the replacement it is necessary to:

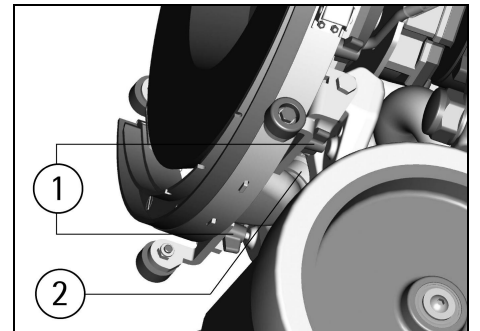
1. Lower the squeegee by lowering the handle lever (4) placed in the centre of the handle bar.

2. Tip over the machine backwards (see under "VERTICAL POSITIONING OF THE MACHINE") paying attention to remember to switch off the machine pressing all the switches and take off the plug from the mains socket.



3. With the machine in this position release the wing nuts (1) unscrewing them completely to free the squeegee.

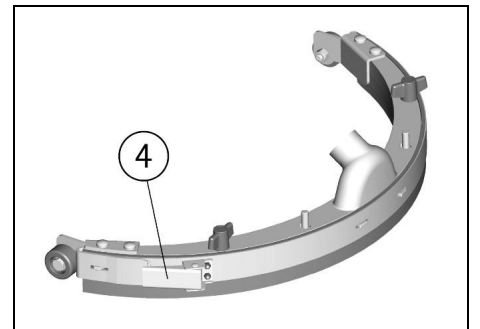
4. Take off the coupling (2) of the squeegee hose and take off the squeegee.

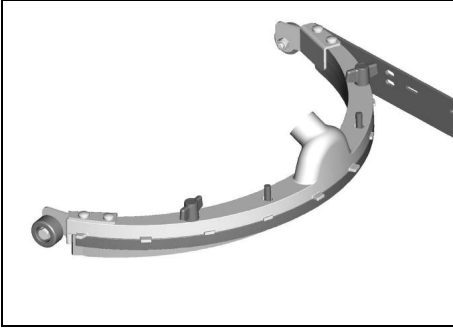


5. Release the catch (4) of the rubber blade clamp and take the rubber off to turn it to a new side or replace it.

6. Check that the coupling and the squeegee hose are not obstructed and if necessary, clean the entire assembly.

To reassemble the squeegee reverse the operations above.





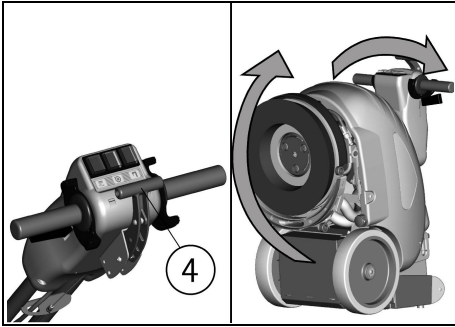
FRONT SQUEEGEE RUBBER REPLACEMENT

Check the wear of the front squeegee rubber and replace it if worn out.

For the replacement it is necessary to:

1. Lower the squeegee by lowering the handle lever (4) placed in the centre of the handle bar.

2. Tip over the machine backwards (see under "VERTICAL POSITIONING OF THE MACHINE") paying attention to remember to switch off the machine pressing all the switches, take off the plug from the mains socket and empty the tanks.



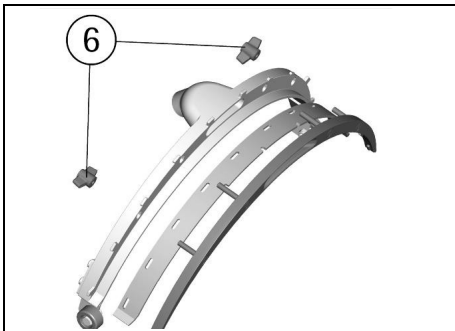
3. With the machine in this position take off the squeegee and then the rear squeegee rubber (see under "REAR SQUEEGEE RUBBER REPLACEMENT").

4. Take off the wing nuts (6) in the upper part of the squeegee body.

5. Separate the two metal parts that form the squeegee body to take off the front rubber.

6. Clean all the components with water.

To reassemble the squeegee reverse the operations above.

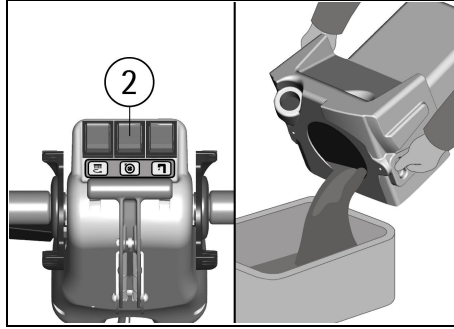


TROUBLESHOOTING GUIDE

THE SUCTION MOTOR DOES NOT WORK

Verify that the suction motor switch (2) is activated, checking that its signal lamp is on.

If the problem persists, please contact the authorized technical assistance.

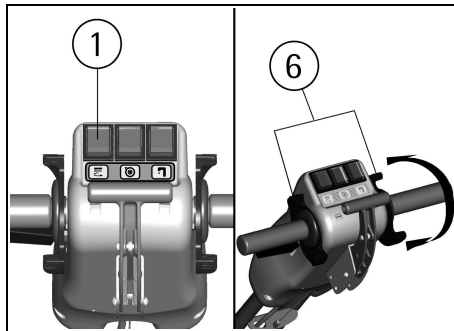


THE BRUSH MOTOR DOES NOT WORK

1. Verify that the brush motor switch (1) is activated, checking that its signal lamp is on.

2. Activate the scrub control levers (6).

If the problem persists, please contact the authorized technical assistance.



INSUFFICIENT WATER ON THE BRUSH

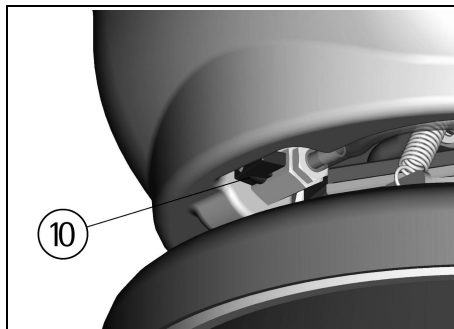
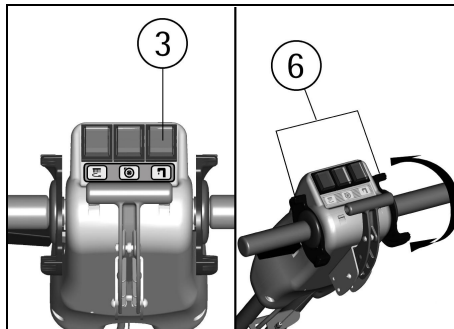
1. Check that the solenoid valve switch (3) is activated verifying that the signal lamp is on.

2. Check the level of the liquid in the solution tank (see under "SOLUTION TANK").

3. Check that the solution flow adjuster (10), placed in front underneath the solution tank, is sufficiently open.

4. Press the brush control levers (6).

If the problem persists, please contact the authorized technical assistance.



THE MACHINE DOES NOT CLEAN PROPERLY

1. The brush does not have the suitable bristle dimension: use only original brushes. For advice, contact the authorized technical assistance.

2. The detergent solution is insufficient: open the solution flow adjuster (10).

3. Check that the liquid detergent is in the recommended percentage.

Contact the authorized technical assistance for advice.

THE SQUEEGEE DOES NOT DRY PERFECTLY

1. Check that the squeegee rubbers are clean, integral and not too much worn. If necessary, they need to be eventually rotated or replaced (see under "REAR SQUEEGEE RUBBER REPLACEMENT").

2. Check that the coupling of the suction hose is correctly inserted in the proper seat on the recovery tank.

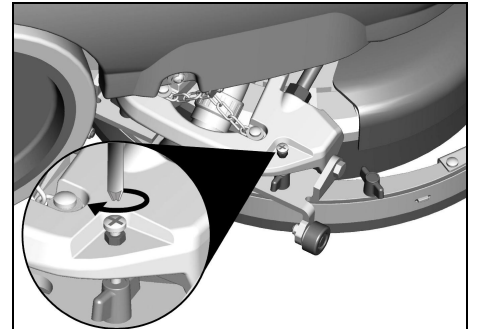
3. Check the suction filter is clean.

4. Replace the rubbers if worn.

5. Check that the suction motor switch is on.

6. Check the level in the recovery tank (see under "OVERFILL PROTECTION") and if necessary, empty the tank.

7. If the floor remains wet in the central part of the drying, it is necessary to give more pressure in the rear part of the squeegee, screwing down of some turns the screw, as shown in the picture.



EXCESSIVE FOAM PRODUCTION

Check that low foam detergent has been used. Add small quantities of anti foam liquid into the recovery tank.

Do not use excessive amounts of detergent as even with low foaming agent, the foam will be created and lead to vacuum motor damage. Also excessive detergent will result in solution pipe blockages over time.

Please be aware that a larger quantity of foam is produced when the floor is not very dirty. In this case please dilute detergent solution.

PROGRAMMED MAINTENANCE

INTERVENTION	DAILY	ORDINARY/MONTHLY
RECOVERY TANK CLEANING	•	
SUCTION FILTER CLEANING	•	
BRUSH CLEANING	•	
BRUSH REMOVAL	•	
SQUEEGEE ASSEMBLY CLEANING	•	
FRONT SQUEEGEE RUBBER REPLACEMENT		• as required
REAR SQUEEGEE RUBBER REPLACEMENT		• as required
SQUEEGEE HOSE CLEANING		•
SOLUTION TANK CLEANING		•

RECOMMENDED BRUSHES

Brushes must be chosen depending on type of floor and dirt to be removed.

The employed material and the bristle diameter are the elements that distinguish different types of brushes.

MATERIAL	CHARACTERISTICS
PPL (Polypropylene)	Good wear resistance. Maintains characteristics with hot water up to 60°C. It is not hygroscopic.
BRISTLES THICKNESS	Thicker bristles are more rigid and must be used on smooth floor or floor with small joints. On irregular floors with deep joints or relieves, softer bristles penetrate more easily and deeper. Please be aware that when brush bristles are worn out they become rigid and unable to penetrate and clean deeper. This may also cause brush vibration with thicker bristles.
PAD HOLDER	Pads are recommended to clean smooth surfaces. The pad holder has anchor points to retain the pad. It is important that the height of the pad holder with its pad is the same as the one of the brush.

CODE	QUANTITY	DESCRIPTION	USE
48903020	1	Brush PPL 0,6 Ø 345	Normal floors.
48903030	1	Brush PPL 0,9 Ø 345	Smooth floors with small joints and persistent dirt.
48903050	1	Brush 5-mix Ø 345	For all types of floors.
48803010	1	Pad holder Ø 330	For pads of 14", for smooth surfaces cleaning.
48803030	1	Pad holder Ø 330 + center lock green	For pads of 14", for smooth surfaces cleaning.
48803040	1	Pad holder Ø 330 + center lock black	For pads of 14", for smooth surfaces cleaning.