

NR-22

This manual is furnished with each new model.

It provides necessary operation and maintenance instructions.

Read this manual completely and understand the machine before operating or servicing it.

The descriptions contained in this document are not binding.

The company therefore reserves the right to make any modifications at any time to elements, details, or accessory supply, as considered necessary for reasons of improvement or manufacturing/commercial requirements.

The company reserves the right to make any technical and/or supply modifications. The images are for reference purposes only, and are not binding in terms of design and supply.

This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly per the machine maintenance instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.



Specifications and parts are subject to change without notice.

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SAFETY PRECAUTIONS

This scrubbing machine is designed for the professional cleaning of surface and floors in industrial, commercial and public environment. The machine is only suitable for use in closed or at least covered location.

Please use recommended pads, brushes and commercially approved floor cleaners intended for machine application.

The following warning alert symbol and the "FOR SAFETY" heading are used throughout this manual as indicated in their description.



WARNING: To warn of hazards or unsafe practices which could result in severe personal injury or death.

FOR SAFETY: To identify actions which must be followed for safe operation of equipment.

The following safety precautions signal potentially dangerous conditions to the operator or equipment. All operators must read, understand and practice them.



WARNING: Fire or Explosion Hazard

- Never use Flammable Liquids Or Operate Machine In Or Near Flammable Liquids, Vapors Or Combustible Dusts.

This machine is not equipped with explosion proof motors. The electric motors will spark upon start up and during operation which could cause a flash fire or explosion if machine is used in an area where flammable vapors/liquids or combustible dusts are present.

- Do Not Pick Up Flammable Materials Or Reactive Metals.
- Batteries Emit Hydrogen Gas, Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.



WARNING: Electrical Hazard

- Disconnect Battery Cables and Charger Plug Before Servicing Machine.
- Do Not Charge Batteries with Damaged Power Supply Cord. Do Not Modify Plug.

If the charger supply cord is damaged or broken, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.



WARNING: Spinning Brush, keep Hands Away. Turn Off Power Before Working On Machine.

FOR SAFETY:

1. Do not operate machine:

- With flammable liquids or near flammable vapors as an explosion or flash fire may occur.
- Unless trained and authorized.
- Unless operator manual is read and understood.
- If not in proper operating condition.

2. Before starting machine:

- Make sure all safety devices are in place and operate properly.

3. When using machine:

- Go slow on inclines and slippery surfaces.
- Wear non-slip shoes.
- Reduce speed when turning.
- Report machine damage or faulty operation immediately.
- Never allow children to play on or around.
- Follow mixing and handling instructions on chemical containers.
- Do not operate on inclines that exceed 5% (3°) .

4. Before leaving or servicing machine:

- Stop on level surface.
- Turn off machine.
- Remove key.

5. When servicing machine:

- Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
- Disconnect battery cables and charger plug before working on machine.

6. Wear protective gloves and eye protection when handling batteries or battery cables.

- Avoid contact with battery acid.
- Do not power spray or hose off machine. Electrical malfunction may occur.
- Use manufacturer supplied or approved replacement parts.
- All repairs must be performed by a qualified service person.
- Do not modify the machine from its original design.

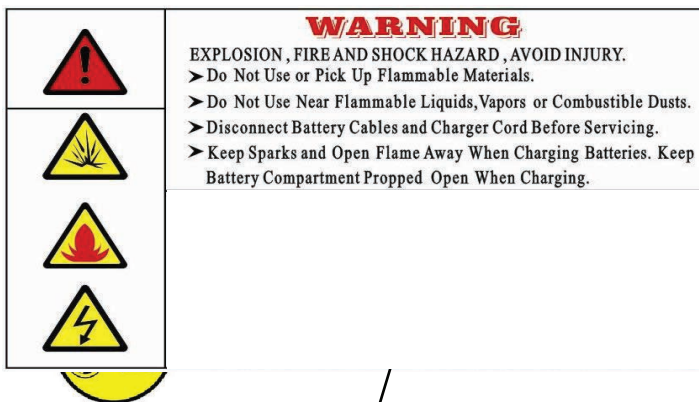
7. When loading/unloading machine:

- Drain tanks before loading.
- Remove batteries before loading.
- Move machine with others' assistance.
- Turn machine off.

SAFETY LABELS

The safety labels appear on the machine in the locations indicated. Replace labels if they are missing, become damaged or illegible.

WARNING LABEL - Located on recovery tank cover



Presentation: Please read this manual carefully before operating the machine



WARNING: keep hand away from the spinning brush; Turn off power before working on the machine.

MACHINE COMPONENTS



- | | |
|---------------------------------|-------------------------------|
| 1. Operating Handle | 10. Recovery Tank Drain Hose |
| 2. Main Power on/off Key Switch | 11. Squeegee Assembly |
| 3. Horn Switch | 12. Brush |
| 4. Brush Lift Pole | 13. Solution Tank |
| 5. Squeegee Lift Pole | 14. Drive Pedal |
| 6. Recovery Tank Cover | 15. Solution Level |
| 7. Warning Lamp | 16. Hose Water Injection Hole |
| 8. Squeegee Vacuum Hose | 17. Seat |
| 9. Recovery Tank | |
| 8 | |

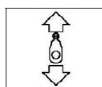
CONSOLE SYMBOLS



Symbol denoting acoustic alarm Used to indicate the acoustic alarm button



Energy saving button



Symbol denoting forward/backward drive selector. Used to indicate the button that allows the direction to be selected



Brush coupling/uncoupling symbol

Used to indicate the button that couples or uncouples the brush



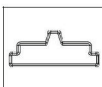
Brush head / squeegee motion symbol (idle position)

Used to indicate the movement levers of the brush head and squeegee



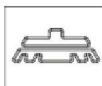
Brush head / squeegee motion symbol (working position)

Used to indicate the movement levers of the brush head and squeegee



Squeegee symbol

Used on the steering column, to indicate the squeegee control lever



Brush head symbol

Used on the steering column, to indicate the brush head control lever



Symbol indicating the maximum temperature of the water used to fill the solution tank

PRELIMINARY MACHINE INSTALLATION

UNCRATING MACHINE

1. Carefully check the shipping crate for signs of damage. Report damage at once to carrier.
2. Check the contents list. Contact distributor for missing items.

Contents:

- 100AH/150AH Batteries-Optional (Optional)
- 24 V Battery Chargers-Optional
- Squeegee Assembly
- 1 Needle Base, 1 Brush (Optional)

Pads need to buy additional.

3. The machine is contained in specific packaging with a pallet for the handing with fork trucks. The packages Cannot be placed on top of each other.
4. Before uncrate your machine, remove the shipping hardware and straps that fixed the machine to the pallet. Carefull unload the machine with others' help.

ATTENTION: Do not push machine from the pallet unless a ramp is used, machine damage may occur.

INSTALLING BATTERIES



WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And OpenFlame Away.

Keep Batteries Hood Open When Charging. You must carefully follow the instructions provoded by

the manufacturer,otherwise the manufacturer will not in charge of the consequence.

FOR SAFETY: For machine installing, please wear protective gloves and eye protection. Avoid contact with battery acids.

For a good operating performance,we suggest the use of 12V – 150Ah/C5 batteries.

- 1、 Put the machine on level ground, and check the switch if chosed;
- 2、 Lock the machine by activating the electronic brake;
- 3、 Make sure the recovery tank is empty, otherwise empty it completely.



Figure 1

4. Carefully install the batteries into the battery compartment tray. And arrange the battery posts as shown.(Figure 2)
5. House the batteries in the compartment, red to “+” and black to “-”, positioning them opposite each other.

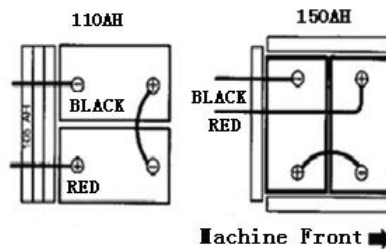


Figure 2

CONNECTING THE BATTERY CHARGER

IMFORMATION: Make sure the charger is properly set for your battery type before charging, otherwise damage might be couosed.

Please check the battery lable to make sure the type of battery.

In order not to cause permanent damage to the batteries, it is essential to avoid their complete discharge:arrang the recharge within a few minutes of the switching on of the “discharged batteries” blinking light.

⚠ WARNING:Never leave the batteries completely discharged, even if the machine is not being used.Check the battery charger is suitable for the batteries installed, in terms of both capacity and type.

To connect the battery charger you must:

- 1.Move the machine near to the battery charger
- 2.Make sure the recovery tank is empty, otherwise empty it completely
- 3- Check the switch if closed



WARNING: This process must be carried out by qualified personnel. An incorrect connection of the connector may cause problems with machine functioning.

4. Disconnect the electric system connector from the battery connector
5. Connect the battery charger cable to the battery connector
6. Connect the recently wired cable to the external battery charger
7. After the charging cycle is complete, the battery connector must be connected to the machine connector

Attention: Please connect the charger connector to the power supply if use the onboard charger. The charger gets to work if the LED light comes on.



WARNING: Keep the recovery tank open for the duration of the battery recharging cycle to allow fumes to escape.

MACHINE CLEANING WAYS

Water and detergent from the solution tank flow to the floor through a solution valve. The brushes use the detergent and water to scrub the floor clean. As the machine moves forward, the squeegee wipes the dirty solution from the floor into the recovery tank.

BRUSH AND PAD INFORMATION

For best cleaning results use the appropriate brush type for your cleaning application. Refer to the Parts manual for part number information.

The proposed brushes and pads are as follow:

Soft Nylon Scrub Brush (53cm)

Recommended for cleaning coated floors without removing finish. Cleans without scuffing

PAD HOLDER (53cm)

There are thousands of little hooks to hook up the pad.

Polishing pad (White)

Used to maintain highly polished or burnished floors.

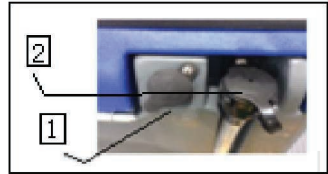
Crash Pad (Red)

Used for light duty scrubbing without damaging floor finish.

MACHINE PREPARATION

Solution tank

The recovery tank must be completely empty each time the solution tank is filled. Remove the filler plug (1) on the right of the machine and check that the solution filter is installed properly.



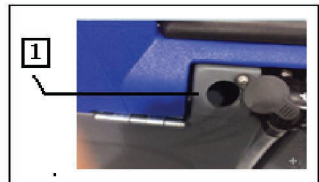
⚠ WARNING: The recovery tank must be completely empty each time the solution tank is filled.

Check that the solution filter cap (2), under the solution tank in the front right of the machine, is properly closed.

Filling the solution tank

The solution tank can be filled in two different ways:

1. Removing the inlet cap (1) and filling it using a rubber tube, left side of the machine. Remove the inlet cap (1) and fill with clean water at a temperature not exceeding 50 °C. The amount present in the tank can be seen through the level pipe on the front-right of the seat. The solution tank has a maximum capacity of about 65 litres. Add the liquid detergent to the tank in the concentration and manner indicated on the detergent manufacturer's label. To prevent the formation of



excess foam that could damage the suction motor, use only the minimum amount of detergent that is necessary.

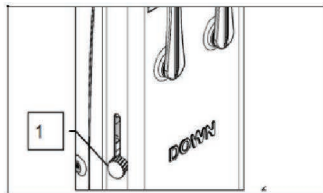
⚠ WARNING: Always use detergents whose manufacturer's label indicates their suitability for scrubbing machines. Do not use acid or alkaline products or solvents without this indication. Acid or alkaline maintenance detergents can be used, as long as they have pH values between four and ten, and do not contain oxidising agents, chlorine or bromine, formaldehyde, mineral solvents.

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

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

REGULATING THE DETERGEN

Firstly, fully open the outflow of the tap, by means of the lever (1) on the steering column. During the first few metres, check that the amount of solution is sufficient to wet the floor. The amount can be adjusted by means of the lever (1), shifting it downwards to increase the flow, or upwards to reduce it. Bear in mind that the correct amount of solution is always depends on the nature of the floor, the degree of dirt and the forward speed.



RECOVERY TANK

Make sure the recovery tank is empty, otherwise empty it completely. Check the cap of the drainage tube (1) (on the rear of the machine) is correctly closed.

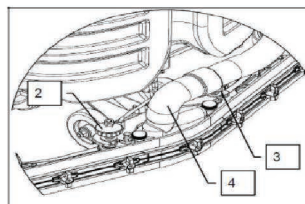
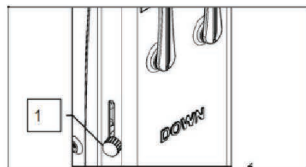


ASSEMBLING THE SQUEEGEE

The squeegee, that for reasons of packaging comes disassembled from the machine, must be assembled while assembling the machine.

Proceed as follows for assembly:

1. Lift the squeegee, turning the left-hand lever (1) to move it clockwise.
2. Turn the main switch key anticlockwise to be closed..
3. Remove the key from the instrument panel.
4. Loosen the knobs (2) and (3) in the squeegee pre-assembly.
5. Insert the left-hand squeegee pin in the left-hand slit of the squeegee connection, then tighten the knob (2), making sure the washer and spring adhere in the upper part of the squeegee support.
6. Insert the right-hand squeegee pin in the right-hand slit of the squeegee connection, then tighten the knob (3), making sure the washer and spring adhere in the upper part of the squeegee support.
7. Insert the suction hose (4) in the squeegee sleeve.



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

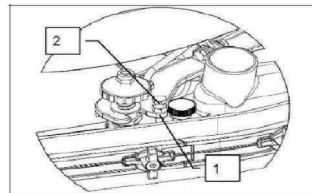
ADJUSTING THE SQUEEGEE INCLINATION

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

increase the bend of the rubber in the central part, .

you must tilt the squeegee unit. To do this, proceed as follows:

1. Loosen the locknut (1).
2. Turn the screw (2) clockwise to increase the bend of the rubber in the central part of the squeegee.
3. When fully adjusted, fix the locknut (1).

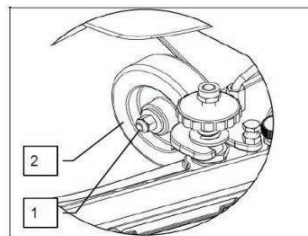


ADJUSTING THE SQUEEGEE HEIGHT

The height of the squeegee must be adjusted on the basis of the state of wear and tear of the rubber.

Carry out the following operations for adjustment:

1. Unscrew the locking nut (1).
2. Raise or lower the wheel (2) by sliding it on the slot of the support.
3. Block it by tightening the locking nut (1) once the required height is reached.

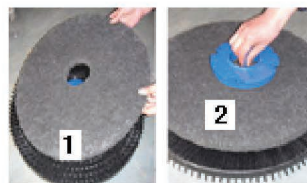
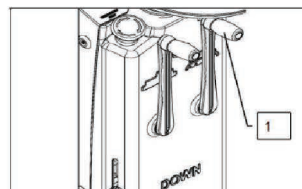


ATTENTION: to facilitate the operation, completely lower the squeegee and put a spacer of a few millimetres (2 to 4 mm depending on the type of rubber) under the wheel.

ASSEMBLING THE BRUSH/PADS


For safety: Before installing brushes or needle base, stop machine on a level surface


1. Check the switch if closed.
2. Lift the brush head by turning the right lever (1) to move the brush head anticlockwise
3. With the brush head in a high position put the brushes in the housing of the plate under the brush head, open the main switch and put the button, the machine will install the brush automatically.



4. Attach the pad to the needle base before installing (1). Secure pad with center lock (2).

OPERATION

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

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

ATTENTION: Check the brush is correctly inserted. If this is not the case, the machine could move in an irregular, sudden manner.

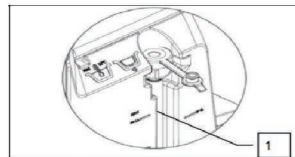
BLINKING LIGHT

The machine can be equipped with a blinking light that turns on automatically when the key in the mainswitch is turned on.




EMPTY SOLUTION TANK DEVICE

To check the quantity of water in the solution tank there is a suitable level indicator tube (1) placed in front of the driver seat.



MACHINE OPERATION

For safety: Please do not operate the machine before reading and understanding this operation manual.

 **WARNING:** Fire Or Explosion Hazard. Do Not Pick Up Flammable Materials Or Reactive Metals.

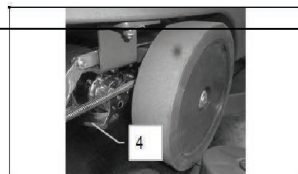
PRE-OPERATIONAL EXAMINATION

1. Check the key switch if opened..

2. The showwindows of panel show battery power.

3. Check the wear of pad/brush.

4. Check the squeegee assembly to ensure that it is properly adjusted. 5. Make sure the recovery tank is empty, the float filter screen is installed and clean.



6. Check the electronic brake (4) is engaged

7. Sit on the driver's seat

8. Move the tap lever (5) downwards and adjust to the desired solution quantity

9. Lower the brush head by turning the right lever (6) clockwise, then lower the squeegee turning the left lever (7) anticlockwise.

⚠ WARNING: As soon as the forward movement pedal is activated with the brush head in its work position, the solenoid valve will start working and will begin dispensing detergent solution. As soon as the squeegee is in its work position, the vacuum motor will switch on and be working.

10. Select the forward gear, and to do this use the switch (8) on the steering column.

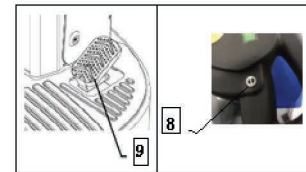
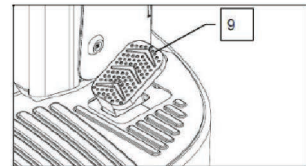
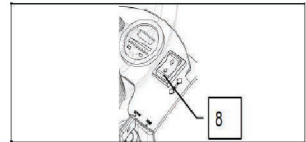
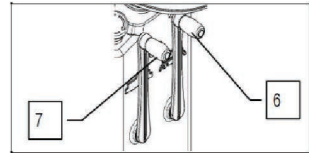
11. Press the accelerator pedal (9) to start moving the machine.

⚠ WARNING: During reverse movements, the squeegee must be lifted off the floor. To do this, turn the lever (7) clockwise.

12. To go backwards, please press the switch (8) and afterwards press down on the pedal (9).

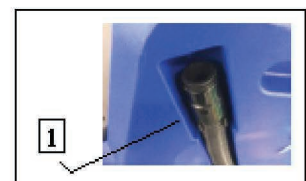
⚠ WARNING: During reverse movements, the squeegee must be lifted off the floor. To do this, turn the lever (7) clockwise.

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




OVERFLOW DEVICE

The machine is not equipped with an overflow device, because the capacity of the recovery tank is greater than the capacity of the solution tank. In extraordinary cases, there is a mechanical device (float) inside the recovery

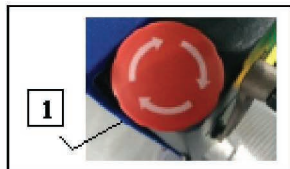


tank that, when the recovery tank is full, shuts off the air to the suction motor intake to protect it; and in this case the sound of the vacuum motor will be deeper. If this happens, raise the squeegee by turning the left-hand lever clockwise. After about 15-25 seconds, switch off the suction motor by making a 1/4 turn of the key, anticlockwise. Make a 1/4 turn of the key clockwise, and take the machine to the designated water drainage area. Then proceed with emptying the recovery tank through a special drainage pipe (1). It is good practice when restoring the level of the solution tank, to empty the recovery tank through the special drainage pipe (1).

 **WARNING:** during machine switch-on, do not keep the accelerator pedal pressed down.

EMERGENCY BUTTON

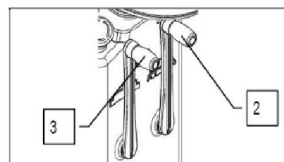
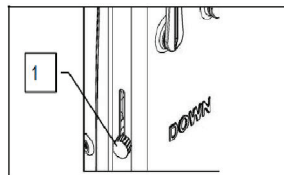
If there are any problems while you are working, press the emergency button beneath the operating floor, the machine will stop and the electric brake is triggered. To resume work, restart the machine.




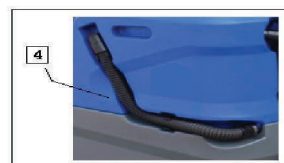
AT THE END OF WORK

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

1. Close the tap by moving the knob (1) upwards.
2. Lift the brush head by turning the right lever (2) anticlockwise, then lift the squeegee turning the left lever (3) clockwise. The vacuum motor switches off automatically after a few seconds.
3. Bring the machine to the place provided for draining the water.
4. Turn the machine off by turning the key one quarter turn anticlockwise and remove it from the panel.



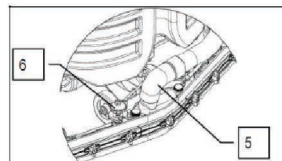
 **WARNING:** Before performing any maintenance, remove the keys from the panel and disconnect the battery connector of the machine.



5. Disconnect the tube (4) from its seat, unscrew the drainage cap and empty the recovery tank.

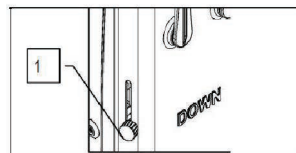
⚠ WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.

6. Slide the suction tube (5) from the squeegee sleeve
7. Remove the squeegee from the support arm by unscrewing the handwheels (6).
8. Clean well both the squeegee and the rubbers with a jet of water.
9. After cleaning the squeegee and rubbers, replace the squeegee on the initial support, firstly inserting the left pin



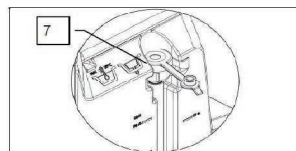
of the squeegee in the left slot of the arm, then the right pin in the right slot, being careful to keep the spring and washer on the plate of the arm. This can be simplified by first loosening the handwheel on the pin. Tighten the handwheel to lock the squeegee in place.

10. Finally insert the squeegee tube in the special sleeve.
11. If you need to empty the solution tank, move the knob (1) downwards.
12. Take the solution tank drainage pipe (7) and remove it from its housing on the solution tank, on the right side of the machine.
13. Open the cap of the solution tank discharge pipe, empty the tank.
14. Close the cap of the solution tank discharge pipe.
15. Reposition the solution tank drainage pipe (7) in its housing on the solution tank, on the right side of the machine.
16. Sit on the driver's seat.
17. Insert the key into the ignition switch, and then drive the machine to a safe zone after starting.



18. Park the machine in a closed place, in an area where it cannot cause damage to people or other property, but also be protected from an accidental fall of objects.

19. Turn the ignition key anticlockwise (OFF position) and remove the key
20. Lift the recovery tank and disconnect the battery connector



⚠ WARNING: do not leave the machine unattended without first removing the start-up switch key and applying the parking brake. In addition, do not park the machine in open places or on sloping floors.

CHARGING BATTERIES

Attention: To prolong the life of the batteries only recharge the batteries if the machine was used for a total of 30 minutes or more. Do not leave batteries discharged for lengthy periods.



WARNING: Fire or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep sparks and open flame away. Keep battery compartment open when charging.

For Safety: When servicing batteries, wear protective gloves and eye protection when handling batteries and battery cables. Avoid contact with battery acid.

BATTERY CHARGER SPECIFICATIONS

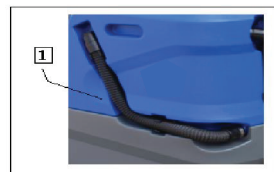
- CHARGER TYPE:
 - FOR SEALED (Gel) BATTERIES
 - FOR WET (Lead acid) BATTERIES
 - OUTPUT VOLTAGE – 24 VOLTS
 - OUTPUT CURRENT – 11 AMPS
 - AUTOMATIC SHUTOFF CIRCUIT
 - FOR DEEP CYCLE BATTERY CHARGING
-

DAILY MAINTENANCE

To keep the machine in good working condition, it's important that the following maintenance procedures are performed on a routine basis.

CLEANING THE RECOVERY TANK

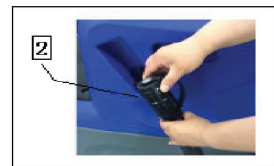
1. Disconnect the tube (1) from its seat, unscrew the drainage cap and empty the recovery tank.
2. Grip the handle (2) co-pressed into the recovery tank and turn it as far as it will go



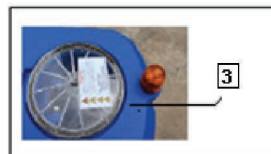
WARNING: Before performing any maintenance, remove the keys from the panel and disconnect the battery connector of the machine.

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

3. Remove the vacuum cover (3).



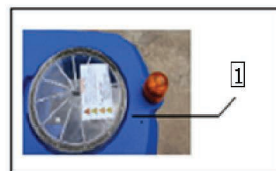
4. Clean and rinse the recovery tank
5. Reassemble all the elements



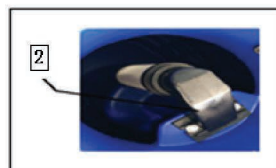
WARNING: Be careful not to hit the recovery tank float directly, as this would enable water to enter the vacuum motor connected to it.

CLEANING THE RECOVERY TANK FLOAT

1. Remove the vacuum cover (1).
2. Remove the float filter (2) by pulling it down.



3. Remove the float filter (3)



5. Clean the filter and float body with a jet of water

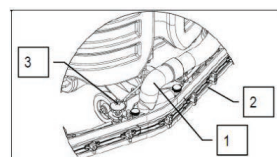


6. Reassemble all the elements

CLEANING THE SQUEEGEE

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

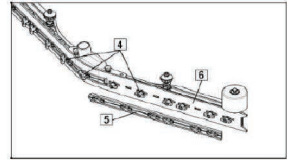
1. Slide the suction tube (1) from the squeegee sleeve.
2. Remove the squeegee (2) from the support arm by unscrewing the handwheel (3).
3. Use a damp cloth to clean the front and rear rubbers, and also clean the vacuum chamber of the squeegee body.



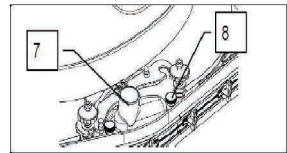
ATTENTION: this operation must be carried out using gloves to protect against contact with dangerous solutions.

OPERATION

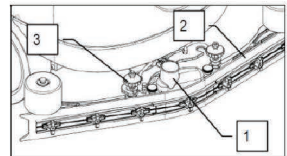
4. Check the wear of the rubbers. If the edge of the rubber is badly damaged, the rear rubber (6) can be turned on all four edges. If the rubbers are completely worn proceed with the replacement. To remove the rubber, turn the wing nuts (4) in a horizontal position, remove the rubber-pressing blades (5) and then remove the rubber to turn it or replace it.
5. Clean the vacuum nozzle (7). To do this, remove it from the squeegee body by rotating the knobs (8) anticlockwise.



6. Reassemble the vacuum nozzle on the squeegee body.



7. After cleaning, replace the squeegee (2) on the initial support, firstly inserting the left pin of the squeegee in the left slot of the arm, then the right pin in the right slot, being careful to keep the spring and washer on the plate of the arm. This can be simplified by first loosening the handwheel (3) on the pin. Then tighten the handwheel (3) to lock the squeegee in place to insert the squeegee tube in the appropriate sleeve (1).



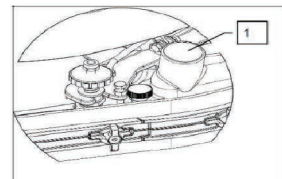
WEEKLY MAINTENANCE

CLEANING THE SUCTION HOSE

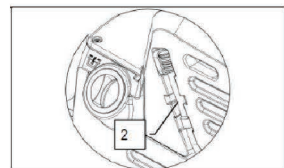
Whenever suction seems to be unsatisfactory, check that the suction tube is not obstructed. If necessary clean with a jet of water as follows:

1. Make sure the recovery tank is empty, otherwise empty it completely.
2. Check the main switch if closed.
3. Disconnect the suction hose from the squeegee nozzle (1)

⚠ WARNING: This operation must be carried out using gloves to protect against contact with dangerous solutions.



4. Detach the aspiration tube from the seat on the recuperation tank (2)
5. Clean it with a water jet introduced from the side where it is connected to the tank.
6. Reassemble all the elements.



CLEANING THE BRUSH

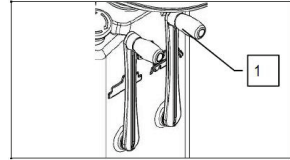
Thorough cleaning of the brush will guarantee a better working capacity.

Proceed as follows for cleaning:

1. Check the main switch if closed.
2. Raise the brush head by turning the right-hand lever (1) anticlockwise
3. Press the brush release button and it will off automatically.

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

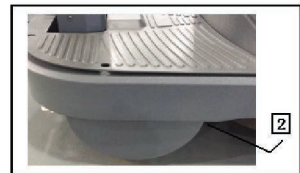
4. Take the brush and clean it under a flowing jet of water
5. Reassemble it on the brush head body



CLEANING THE SOLUTION TANK FILTER

Careful cleaning of the detergent/water solution filter ensures a better working capacity. Proceed as follows for cleaning:

1. Check the main switch if closed.
2. Close the filter valve.
3. Open the filler cap (1)
4. Remove the internal filter cartridge and rinse everything thoroughly with running water
5. Reassemble all the elements
6. The filter is under the machine (2).

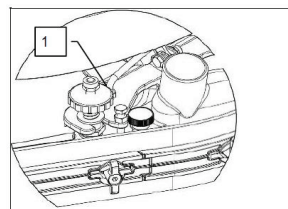


EXTRAORDINARY MAINTENANCE

REPLACING THE FRONT SQUEEGEE RUBBER

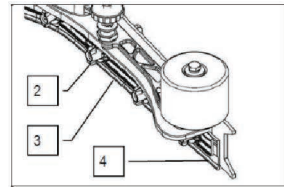
Suction will be poor and the machine will not dry perfectly if the front squeegee rubber is worn. Proceed as follows to replace:

1. Check the main switch if closed.
2. Disconnect the squeegee by loosening the knobs (1)



⚠ WARNING: Before performing any maintenance, remove the key from the panel and disconnect the battery connector.

3. Turn the wing nuts (2) in the horizontal position
4. Remove the front rubber-pressing blades (3)
5. Remove the rubber (4) and replace it
6. To replace the rubber, proceed in reverse order

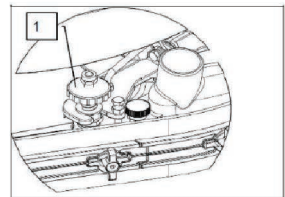


⚠ WARNING: These operations must be carried out using gloves to protect against contact with dangerous solutions.

REPLACING THE REAR SQUEEGEE RUBBER

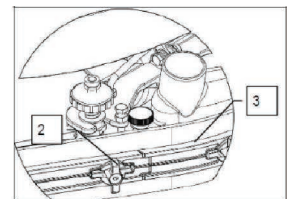
If the squeegee rear rubber is worn and does not dry well, it is possible to change the drying edge using one of the 4 edges of the rubber. This can be done with the squeegee removed, proceeding as follows:

1. Check the main switch if closed.
2. Disconnect the squeegee by loosening the knobs (1).



⚠ WARNING: Before performing any maintenance, remove the keys from the panel and disconnect the battery connector.

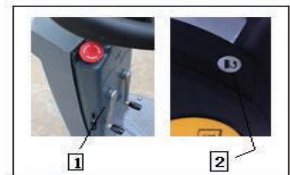
3. Turn the wing nuts (2) in the horizontal position.
4. Remove the rear rubber-pressing blades (3) and then the rubber, to turn it over or replace it.
5. To replace the rubber, proceed in reverse order.
6. Adjust the height of the squeegee depending on the rubber.



⚠ WARNING: These operations must be carried out using gloves to protect against contact with dangerous solutions.

REPLACE THE BRUSH

1. Check the main switch if closed.
2. Raise the brush head by turning the right-hand lever (1) anticlockwise
3. Press the brush release button and it will off automatically.
4. Take up the brush and replace it.



MOTOR MAINTENANCE

Contact an Authorized Service Center for carbon brush replacement.

Carbon Brush Replacement	Hours
Drive Transaxle Motor	750
Vacuum Motor	750
Disk Brush Motors	750



WARNING: Electrical Hazard. Disconnect Battery Cables Before Servicing Machine.

TROUBLESHOOTING

PROBLEM	SOLUTION
The machine does not start	Check that batteries are charged
	Make sure the electric system connector is connected to the battery connector
	Check the key switch is ON/OFF
Insufficient water on the brushes	Check there is water in the solution tank
	Check that the water/detergent solution release adjustment knob (1) is open
	Clean the solution filter (2) located at the front of the machine
The squeegee not dry perfectly	Check the squeegee is clean
	Check the squeegee settings (see "MACHINE PREPARATION")
	Clean the entire vacuum unit (see "WEEKLY MAINTENANCE")
	Replace the rubbers, if worn
The machine does not clean well	Check the state of wear and tear of the brushes and, if necessary, replace them. The brushes should be changed when the bristles are about 15mm long. To replace them, see "REPLACING THE BRUSHES", or "DISASSEMBLING THE BRUSHES" and "ASSEMBLING THE BRUSHES". Working with over-worn brushes may cause damage to the floor.
	Use a different kind of brush to the one fitted as standard. For cleaning floors where the dirt is particularly resistant, we recommend the use of special brushes supplied upon request and according to needs (see "CHOOSING AND USING THE BRUSHES").
Excessive foam production	Check that a low foam detergent has been used. If necessary, add a small quantity of antifoam liquid to the recovery tank. Remember that, when the floor is not very dirty, more foam is generated. In

	this case the detergent solution should be more diluted.
The suction motor does not function	Check whether the recovery tank is full and, if necessary, empty it
	Check the float switch on the suction cap (see also "CLEANING THE RECOVERY TANK" in the paragraph "DAILY MAINTENANCE")
The brush motor does not work(WARNING: To avoid damaging the floor, the motor only starts up when the machine is moved forwards)	Check that the base is lowered during start-up
	The operator must be properly seated in the driving position
	Check no thermal protection device has intervened.
	Check the correct connection of the motor to the terminal under the footboards.

MACHINE SPECIFICATIONS

Technical data	NR-22
Working width	560mm
Squeegee width	800mm
Productivity rate	2800 m ² /h
Brush	1/560mm
Brush motor rate	140rpm
Brush motor	24v/500w
Brush pressure, max	15kg
Drive motor	24v/300w
Driving speed, max	5 km/h
Grade level, max	8%
Vacuum motor	1/(24v/350w)
Vacuum motor suction	700 mbar
Solution tank capacity	65 L
Recovery tank capacity	75 L
Turning diameter	1980mm
Length	1270mm
Length of packing	1360mm
Width(excluding squeegee)	530mm
Width of packing	705mm
Height	1150mm
Height of packing	1280mm
Weight	110kg