

# USER MANUAL

# ESCALATOR CLEANER



EN



Attention: Read the instructions before  
using the machine.

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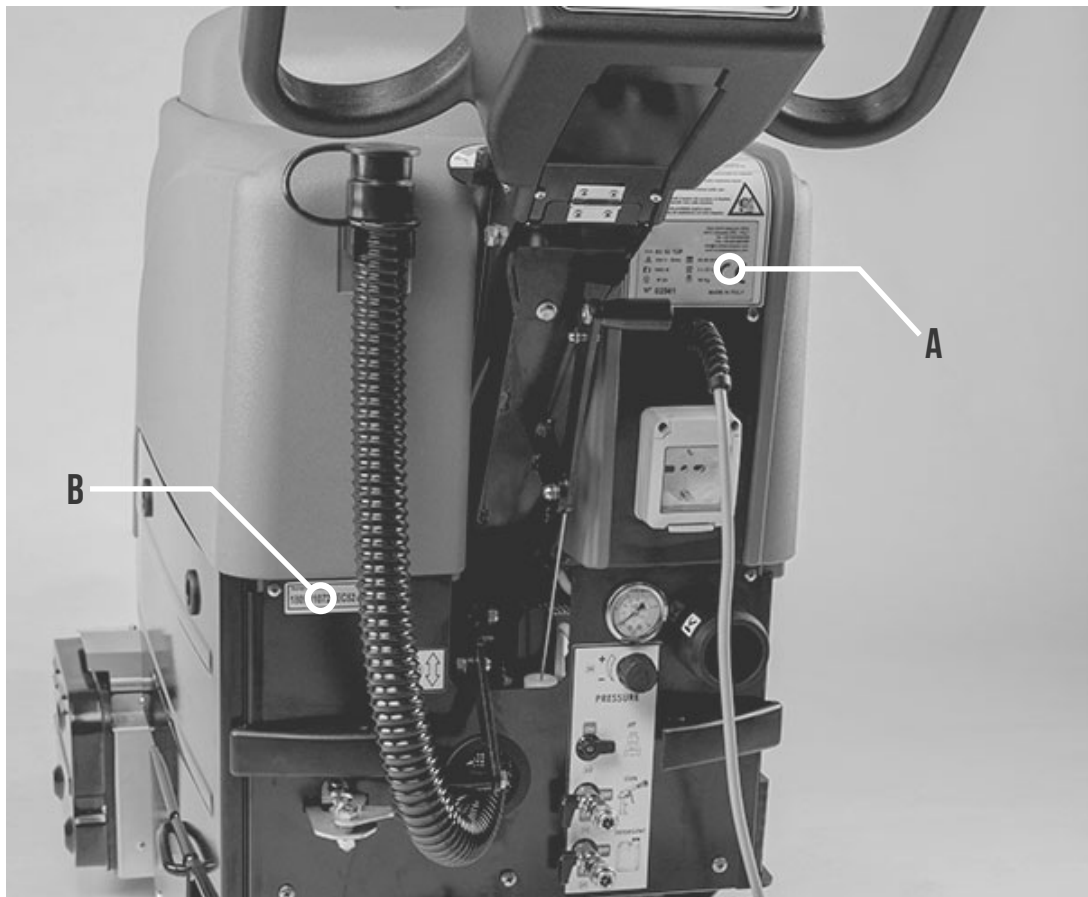
# INTRODUCTION

*Our company, a leading industrial cleaning machine manufacturer, is delighted to welcome you to the ranks of our escalator cleaner owners and it trusts that you will get the greatest satisfaction from the use of the machine. We are certain that while using the machine you will have the opportunity to see the quality, solidity and possibilities for use by yourselves. Our escalator cleaner is ideal for commercial and public use. Described in this manual are various installation, checking and maintenance operations necessary for keeping your escalator cleaner in tip top condition. These are normal maintenance measures that any operator will be able to carry out with tools that he or she should normally have in the company. In the case of particularly demanding work, please call in specialised help.*

OUR COMPANY AIMS AT THE CONSTANT IMPROVEMENT OF ITS PRODUCTS AND RESERVES THE RIGHT TO MAKE MODIFICATIONS AND IMPROVEMENTS WHEN IT CONSIDERS IT ADVISABLE WITHOUT BEING OBLIGED TO UPGRADE PREVIOUSLY SOLD MACHINES WITH SAID IMPROVEMENTS AND MODIFICATIONS.

## MACHINE IDENTIFICATION

The machine and manufacturer are identified through two plates on the rear part of the machine (**A ; B**).



REFER TO THESE DETAILS WHEN ORDERING SPARE PARTS OR MAKING ANY OTHER ENQUIRY TO THE MANUFACTURER.

Our escalator cleaner conform with the EEC directives and show the CE mark.

# WARNINGS!

BEFORE USING THE MACHINE OR CARRYING OUT ANY OPERATION ON IT, ALL THE PROCEDURES AND WARNINGS DESCRIBED IN THIS MANUAL MUST BE READ AND UNDERSTOOD.

RIGOROUS COMPLIANCE WITH THE REGULATIONS AND INSTRUCTIONS CONTAINED IN IT, TOGETHER WITH THE OPERATOR'S ATTENTION AND PRUDENCE WILL BE THE BEST GUARANTEE AGAINST ACCIDENTS THAT COULD OCCUR AT WORK.

OUR ESCALATOR CLEANER IS DESIGNED TO PROVIDE MAXIMUM SAFETY IF USED ACCORDING TO THE INSTRUCTIONS.

THIS MACHINE IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE OR KNOWLEDGE.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE MACHINE.

THE USER'S MANUAL IS AN INTEGRAL PART OF THE ESCALATOR CLEANER AND MUST ACCOMPANY IT UNTIL THE ESCALATOR CLEANER IS DEMOLISHED.

PURSUANT TO DIRECTIVE 2006/42 CE, PRESIDENTIAL DECREE 459 DATED 24/07/1996 AND LATER MODIFICATIONS NOTICE IS GIVEN THAT: OPERATOR IS INTENDED TO MEAN THE PERSON(S) ASSIGNED TO INSTALL, OPERATE, ADJUST, CARRY OUT ORDINARY SERVICING, CLEAN, REPAIR AND TRANSPORT THE MACHINE.

OUR COMPANY WILL NOT BE HELD LIABLE FOR ANY PROBLEMS, BREAKAGE, ACCIDENTS OR OTHER OCCURRENCES DUE TO THE IGNORANCE OR THE NON-APPLICATION OF THE PROCEDURES CONTAINED IN THIS MANUAL OR TO THE IMPROPER USE OF THE MACHINE.

FURTHERMORE, OUR COMPANY SHALL NOT BE HELD LIABLE FOR THE CARRYING OUT OF MODIFICATIONS AND/OR THE INSTALLATION OF PARTS OR ACCESSORIES THEY HAVE NOT BEEN AUTHORISED BEFOREHAND.



**EMERGENCY SITUATION**  
**ONLY EXTINGUISH FIRES WITH POWDER FIRE EXTINGUISHERS**

# GENERAL WARNINGS AND ADVICE

## DANGER SIGNS - ATTENTION



THIS SYMBOL HIGHLIGHTS ALL THE OPERATIONS THAT REPRESENT A POTENTIALLY HAZARDOUS SITUATION FOR THE OPERATOR  
IT IS THEREFORE NECESSARY TO ADHERE CLOSELY TO THE CONDITIONS SHOWN BY THIS SYMBOL.



GLOVES MUST BE WORN



SAFETY GLASSES OR GOGGLES MUST BE WORN



BE CAREFUL NOT TO CRUSH YOUR HANDS BETWEEN PARTS IN MOTION

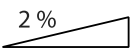


**WARNING:** DO NOT GET IN CONTACT WITH WATER  
THE DEVICES MARKED WITH THIS LABEL ARE NOT TO GET WET. (USUALLY THEY ARE ELECTRICAL COMPONENTS)



AN ANTI-VAPOUR MASK HAS TO BE WORN WHEN USING CORROSIVE DETERGENTS.

**WARNING:** THIS MACHINE IS ONLY SUITABLE FOR INDOOR USE



**WARNING:** DO NOT USE THE MACHINE ON SURFACES WITH A GRADIENT EXCEEDING THE SPECIFICATIONS



## CLEANING AND MAINTENANCE

The machine must be cleaned by persons who have received proper instruction for the purpose, who know how to cut off the sources of energy and who know the characteristics of the machine so as not to find themselves in a hazardous situation.

Clean the machine coverings, the panels and commands with cloths soaked in water or a detergent solution.

Solvents such as petrol, alcohol, etc. must not be used.

Call in specialised personnel to clean the electrical components. Said personnel should use products that are not corrosive and are anyway suitable for electrical circuits.

Specialised personnel with thorough knowledge of the machine and its components must be called in to carry out maintenance operations.

Any maintenance and cleaning operation must be carried out with the **power cable disconnected from the power mains**, with all the mechanisms still, after the hot sections have cooled down.

When using compressed air guns for cleaning, protect the eyes and ears.

### STORING THE MACHINE

If the machine is not used for a long period, it is essential to:

- Disconnect the power cable from the power mains;
- Empty and wash the tanks as described in the relative section;
- Clean the clean water filter and empty it completely;
- Clean the machine inside and outside;
- Keep brushes and squeegee raised;
- Keep the machine in a protected place;
- Keep the machine within a temperature range of 5°C / 40 °C;
- Keep the machine within a humidity range of 30 % / 80 %.



## PRECAUTIONS FOR THE SAFETY OF OPERATORS AND TECHNICIANS

- The machine must not be used by non-authorized personnel who have not been trained to use it properly or by people who are under the influence of substances that could alter their nervous reflexes (alcohol, psycho pharmaceuticals, drugs etc.);
- Do not use the machine in inflammable areas or where there is the danger of explosions;
- Do not collect material that is alight or anything else that could cause a fire;
- Do not remove protections or guards when the machine is in operation;
- Do not use the machine to clean objects;
- Do not start to perform maintenance operations with parts in movement;
- Protect eyes and ears when using compressed air or water guns for cleaning the machine;
- To raise the machine make use of devices that are adequate to bare the weight of the machine itself;
- Do not cause flames or sparks around the machine;
- Move carefully over uneven or crumbling paving and on slopes;
- Slow down on slopes and slippy surfaces;
- Make sure the machine is not exposed to rain and weather conditions, whether in motion or still;
- Temperature of usage of the machine has to be kept within + 5 °C / + 40 °C;
- Humidity has to be kept within 30 % / 80 %.



## RESPONSIBILITIES OF THE OPERATOR

- The operator is responsible for the day-to-day servicing of the machine;
- The operator must care for the machine and keep it in good operating condition;
- The operator must inform his or her superior or the technical department when scheduled maintenance is requested, in the case of damage or breakage;
- The operator must not carry people, animals or objects on the machine;
- When moving the machine, observe the safety measures for circulation;
- The machine cannot be used for toxic-harmful materials;
- Never let people get close to the machine's sphere of action;
- Never leave the scrubber-dryer with the power cord plugged in;
- If the machine malfunctions, have a look at the procedures shown in the various chapters;
- Never collect pieces of string, wire or anything else that could damage the brushes by winding around them;
- Never suck up pieces of wood, plastic waste etc. as they may clog the vacuum pipe;
- Never remove or alter the plates on the machine.

### UPDATING OF THE USER'S MANUAL

When large-scale modifications are made to the machine or new parts are installed, the updated documentation must be sent to the Dealer along with the purchased part or as an update of the manual.

### OBLIGATIONS OF THE EMPLOYER OR OWNER OF THE MACHINE

The employer or owner of the machine is responsible for giving the User's Manual to all the personnel who are going to have to use the machine.

The employer or owner of the machine also undertakes the responsibility to update the manual with the documentation that the Manufacturer will send if modifications are made to the machine.

## SCRAPPING THE MACHINE



All of the packaging is recyclable.

Do not dispose of the packaging in general waste, take it to a recycling center.

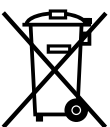


### SCRAPPING OF THE MACHINE

When the machine is to be scrapped, it is necessary to dispose of the materials the machine consists of, properly.

It is compulsory to give the machine to authorised collectors who will see to the proper disposal of: oils, filters, plastics, metals, electric engines, electric cards etc. in accordance with the regulations currently in force.

The machine contains valuable recyclable materials, that should be taken to a recycling center. Please dispose of old equipment using appropriate collection systems.



### DISPOSAL OF THE RECOVERY SOLUTION TANK

Prior to be moved on specific purification plants, the recovery tank solution is to be disposed of in the appropriate sites.



## TRANSPORT

The machine must be fixed to a pallet to make it easier to transport and more secure.

At the reception of the machine, check that the packaging is in good condition –in case of damage, report to the forwarder.

PAY PARTICULAR ATTENTION WHILE TRANSPORTING THE MACHINE AT TEMPERATURES BELOW 0°C TO PREVENT THE WATER INSIDE THE TANKS AND THE PIPES FROM BECOMING FROZEN.

DRAIN THE TANKS, REMOVE THE SCREEN OF THE CLEAN SOLUTION FILTER AND LET THE WATER FLOW AWAY COMPLETELY OUT OF THE PIPES.



## TRANSPORT- HANDLING

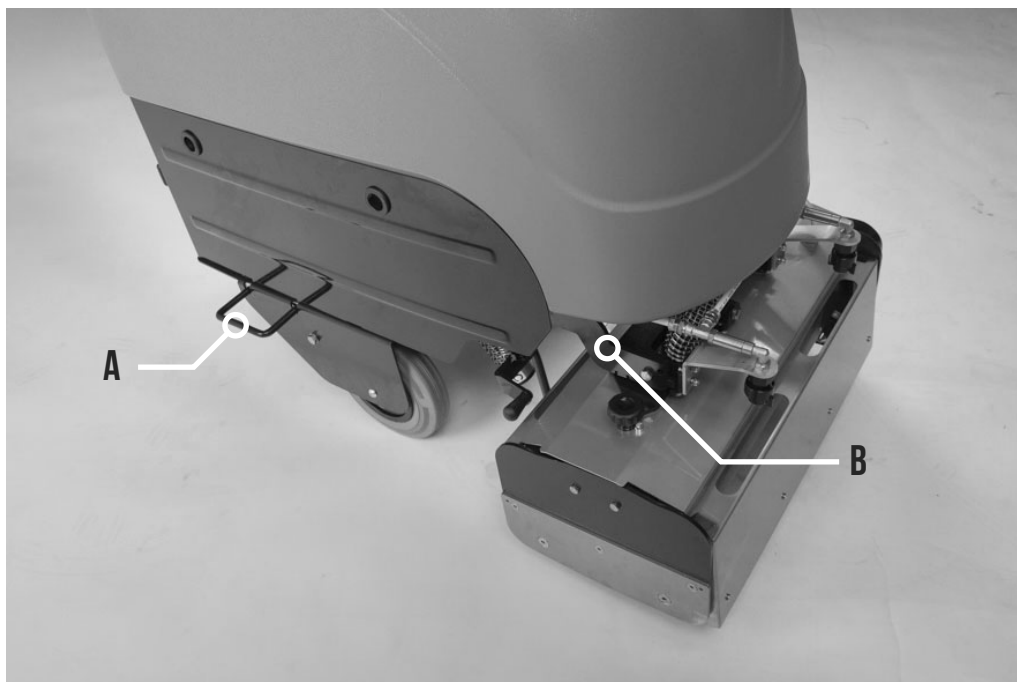
When the machine is moved from one place to another you are advised to:

- Not load it on the vehicle with a forklift truck in order not to damage it;
- Fix it well to the vehicle using belts and/or ropes and chains.

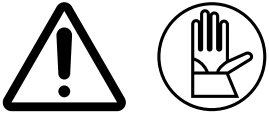
Four handles were positioned on two sides of the machine: there are two removable handles on the back side (**A**) and two shaped like slots positioned on the front side on the clean water tank (**B**). These handles make it easier to lift the machine (i.e. it weighs 95 kg) and load it onto a transportation means or move it to where it will be used.

To transport the machine manually, proceed as follows:

push down the handles until the back wheel rests on the floor; that way, the brushes will be lifted from the ground and consequently the machine can be moved.



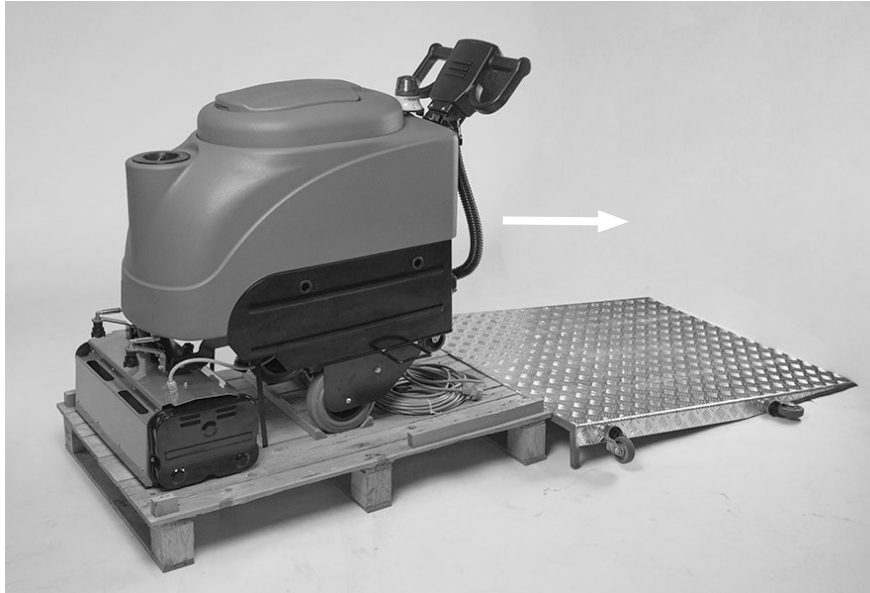




# UNPACKING THE MACHINE

Before unpacking the machine, check for the following parts:

- 2 brush sets (1 Tynes, 1 PPL)
- Squeegee (TOP version)
- Two packages containing all manual accessories (TOP version)

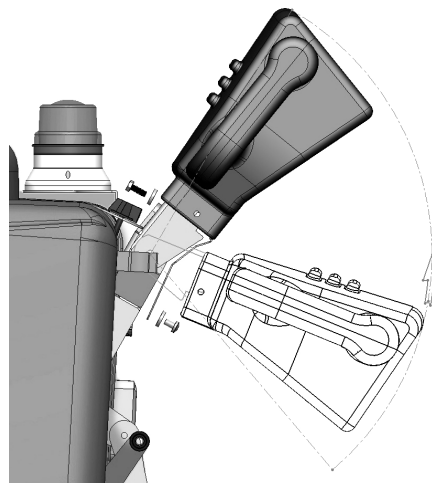


To unpack the parcel, proceed as follows:

1. Cut the strap;
2. Connect the inclined surface;
3. Unload the machine from the side indicated by the arrow. Alternatively, it is possible to use the two removable handles and the two slots on the tank to lift the machine up manually and rest it on the floor.

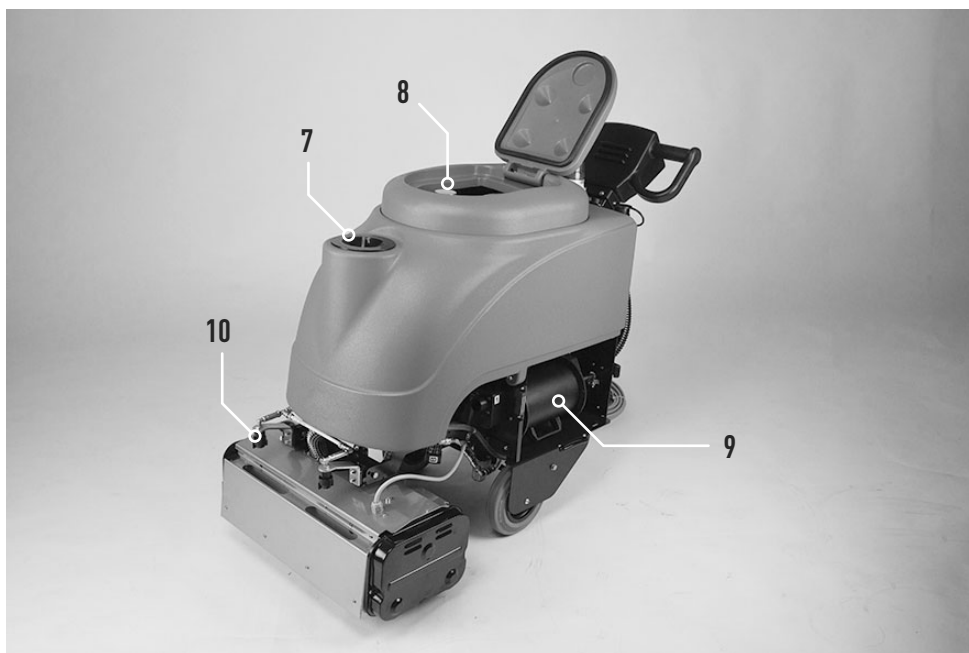
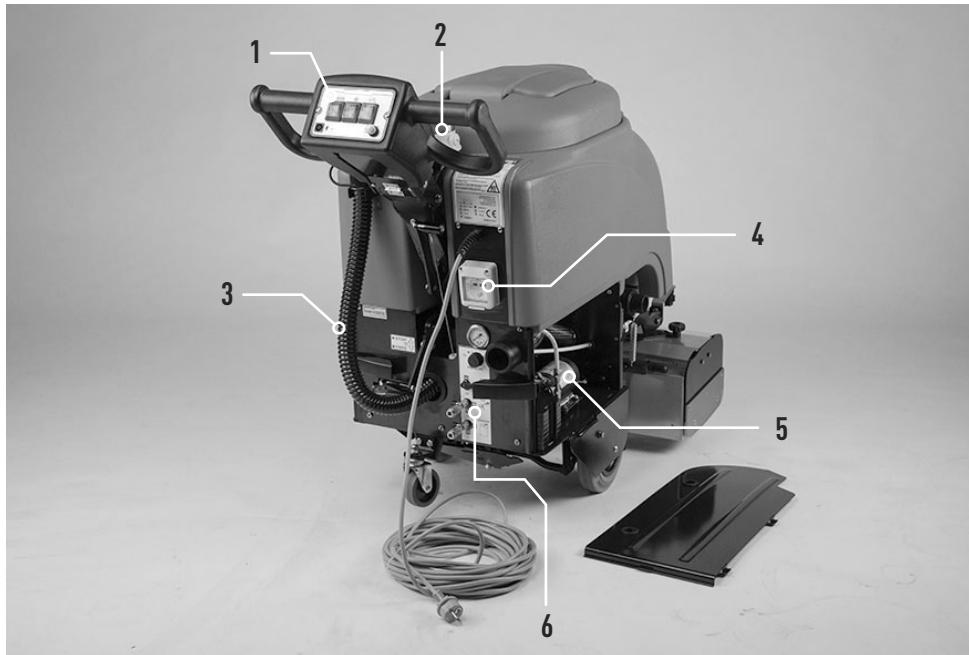
**ATTENTION: DON'T REMOVE THE MACHINE FROM THE PALLET BY USING A FORKLIFT AS IT CAN BE DAMAGED.**

4. fix the handlebar in its operating position and fix the two screws into the threaded holes.



# MACHINE DESCRIPTION

EC 52



- |    |                              |     |                               |
|----|------------------------------|-----|-------------------------------|
| 1. | Dashboard                    | 6.  | Pump and accessory control    |
| 2. | Flashing light               | 7.  | Clean water tank              |
| 3. | Dirty water drain hose       | 8.  | Recovery tank                 |
| 4. | Additional electrical outlet | 9.  | Internal bag filter container |
| 5. | Pump                         | 10. | Spray nozzles                 |

# PRIMARY FUNCTIONS AND CONTROLS



## 1. BRUSH SWITCH

By pressing the switch towards position 1, the brush function starts.

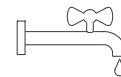
By pressing the switch towards pos. 0 the brush stops immediatly.



## 3. VACUUM SWITCH

By pressing the switch towards pos. 1, the vacuum unit comes on.

By pressing the switch towards pos. 0, the vacuum unit switches off.



## 4. PUMP SWITCH

Press the switch to position 1 to turn the pump on.

Press the switch to position 0 to turn the pump off.



## 2. GREEN LIGHT SIGNALLING POWER IS ON

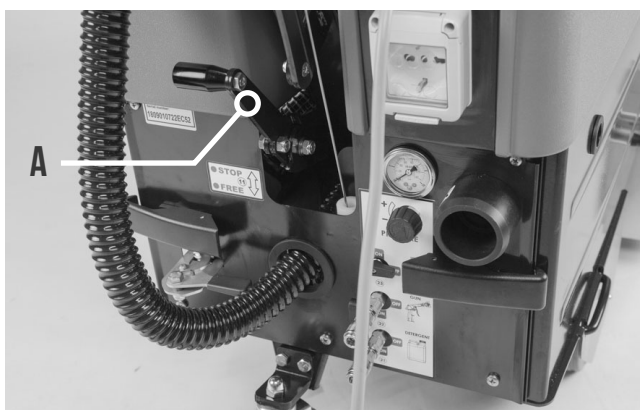
The green light indicates that the machine is power supplied.

**WHEN THE LIGHT IS ON, IT IS FORBIDDEN TO OPEN THE ELECTRICAL SWITCHBOARD OR CARRY OUT ANY MAINTENANCE OPERATION.**

## 5. 5A RESETTABLE FUSE

If the absorption of the brush motor exceeds 5A for a certain amount of time, the fuse triggers to protect the motor.

To enable this function again, press the RESET button from the dashboard. Always check the brushes, before resetting the fuse.



## 6. BRAKE

The lever enables the brake (A); it must be applied when the machine is used for cleaning the escalator.



## 7. KNOB ROTATING THE BRUSH HEAD

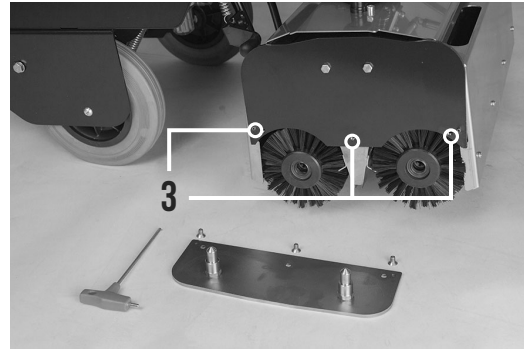
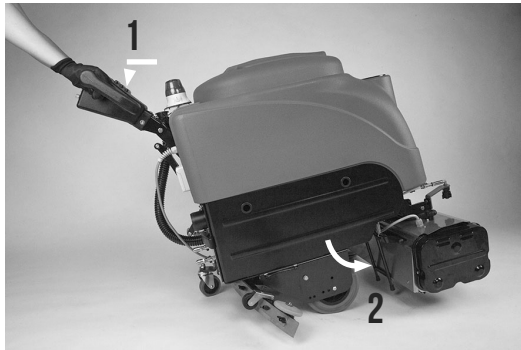
After cleaning one side of the escalator, use the knob (B) to rotate the brush head in order to clean the opposite side.

# DRY PHASE SET UP

## FITTING THE TYNEX BRUSHES

To fit the Tynex brushes:

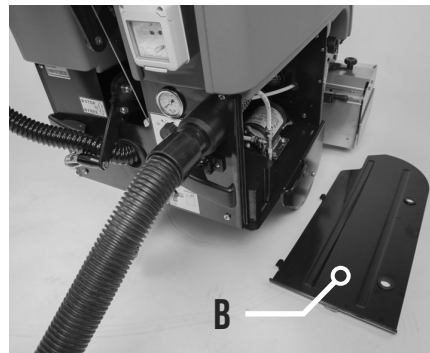
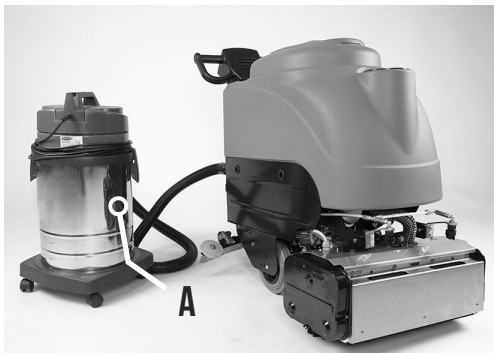
- Position yourself behind the machine and press the handle downwards (1) and let the stand (2) lower down.
- Remove the side panel and insert the brushes. Pay attention to the different shapes of the locking pins.
- Close the side panel by inserting the cylindrical hollow side of the brushes into the proper pins. Fix the side panel by using the screws. Use the two centring pins to position the side panel properly (3).



## HOW TO USE AN EXTERNAL VACUUM

For using an external vacuum during the dry cleaning phase, proceed as follows:

- Connect the external vacuum (A) to the machine by using the mouthpiece;
- Remove the right side panel (B);
- Inside the machine, connect the hose C to mouthpiece 2;
- Close the side panel.



## HOW TO USE THE INTERNAL VACUUM

For using an internal vacuum during the dry cleaning phase:

- Remove the side panel by using the proper hook;
- Inside the machine, connect the hose A to mouthpiece 1;
- Inside the machine, connect the hose B to mouthpiece 2;
- Check that the bag (F) is present in the vacuum and close the side panel. Fit a bag if there isn't one.





# USING THE MACHINE (DRY PHASE)

Our escalator machine must be operated by properly trained authorised staff.  
Escalator cleaners that do not operate properly must be taken out of service immediately.

## CHECK BEFORE USE

Make sure to check the following before using the machine:

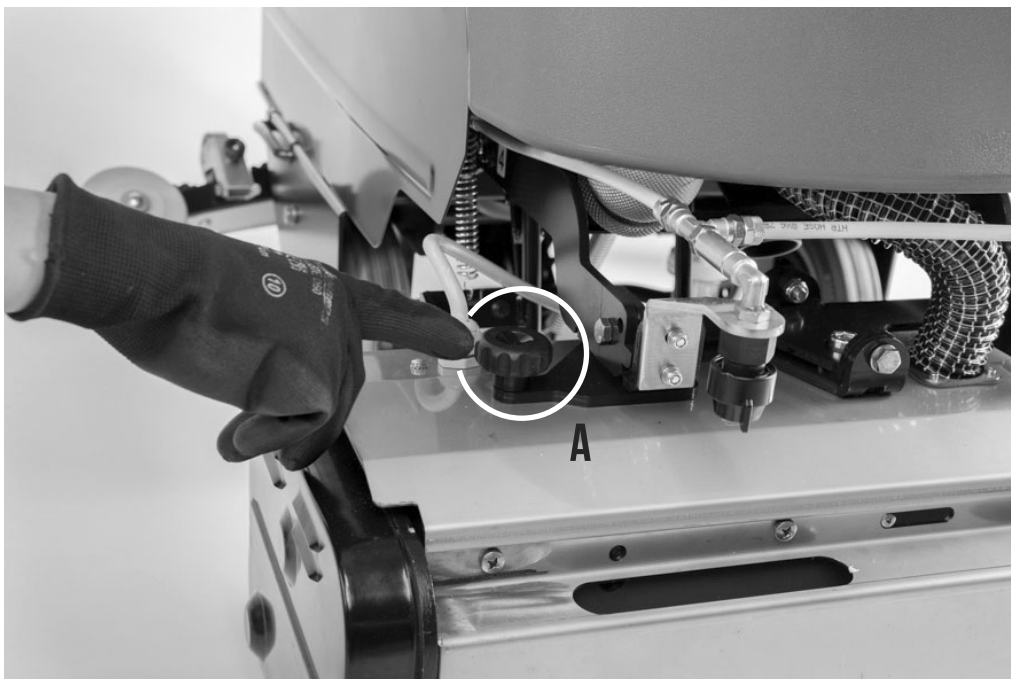
- Make sure the brushes are in good condition;
- If an internal vacuum is used, make sure that the bag is not full;
- Make sure that the rubber pieces of the brush head are in good condition.

## POSITIONING THE MACHINE AND START UP

- Connect the power cord to the mains;
- Position the machine on the escalator landing plate and raise the stand (if it is still lowered);
- Place the smaller side of the brush head (i.e. the side without the gear box) as close to the side of the escalator as possible;
- Activate the brake;
- Turn on the vacuum and then the brushes;
- Turn on the escalator and make sure it moves toward the machine.

## ROTATING THE BRUSH HEAD

- Unscrew the fixing knob (A) of the brush head;
- Rotate the head and tighten the knob;
- Position the machine on the side of the escalator that remains to be cleaned and repeat the previous operation;
- At the end of operation remove any dust residues left on the landing plate using the vacuum wand accessory (optional for BASE version).

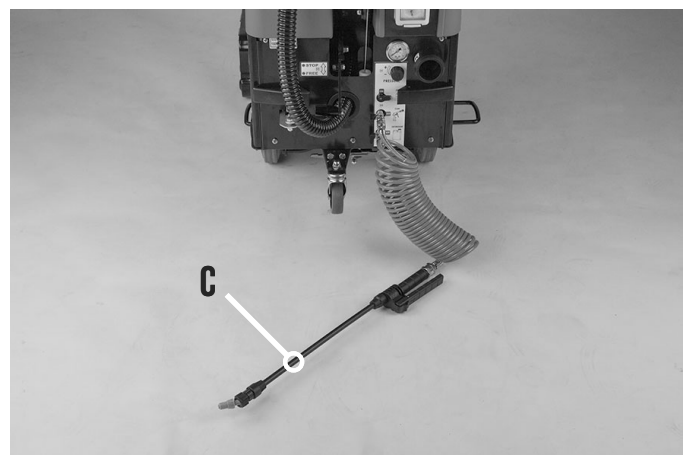
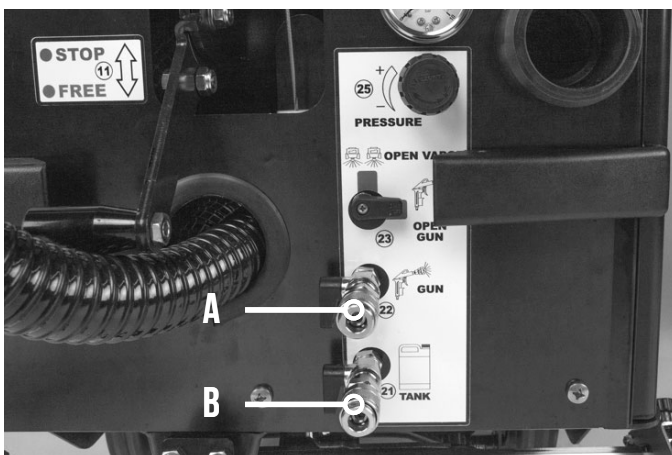


# PREWASHING THE STEPS WITH THE WAND (optional for the BASE version)

Before washing the escalator, the machine can perform a pre-wash treatment using a specific detergent for tough dirt. This can be particularly useful to remove grease used to lubricate the escalators gears that can transfer to the steps during operation of the escalator.

Carry out pre-washing, as follows:

- Set the selector to "OPEN GUN";
- Connect the accessory spiral hose to the quick connector (A) and connect the accessory spray gun to the spiral hose;
- Connect the chemical pick-up hose to the quick connector (B) and then insert the other end of the hose into the detergent container;
- Open the spray gun tap and activate the pump;
- Regulate the detergent delivery pressure by setting it between 0.5 and 0.8 bar;
- Spray the product on the escalator steps by using the spray gun (C), making sure that the escalator has a complete rotation cycle.

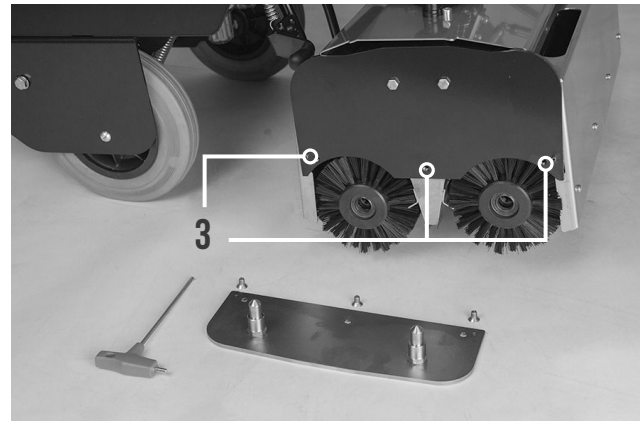


# WET PHASE SET UP

## FITTING THE PPL BRUSHES

To fit the PPL brushes, position yourself behind the machine:

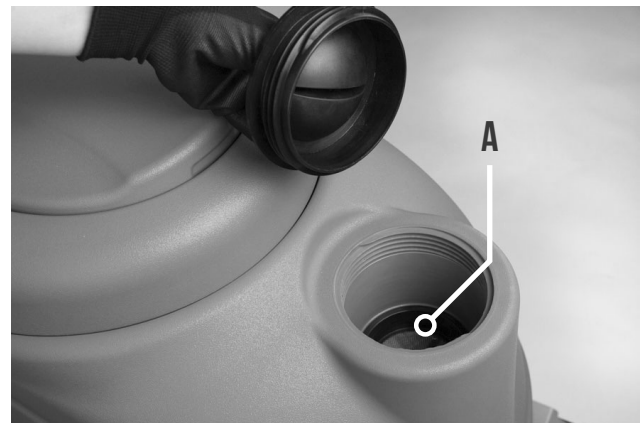
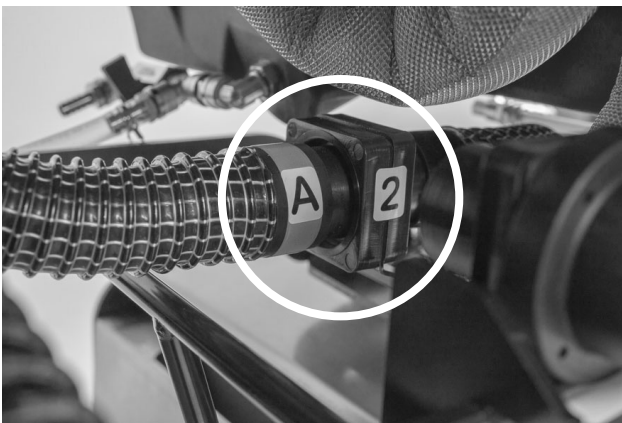
- Press the handle downwards (1) and let the stand (2) lower down.
- Remove the side panel and the Tynex brushes and insert the PPL brushes. Pay attention to the different shapes of the locking pins.
- Close the side panel by inserting the cylindrical hollow side of the brushes into the proper pins. Fix the side panel by using the screws (3). Use the two centring pins to position the side panel properly.



## CONNECTING THE HOSES AND FILLING THE SOLUTION TANK

For preparing the machine to wash the escalator, proceed as follows:

- Remove the side panel by using the hook;
- Inside the machine, connect the hose A to mouthpiece 2. In this way, all dirt will be vacuumed into the recovery tank;
- Fill the solution tank with a mixture of water and the universal degreasing detergent for cleaning escalators (A);
- Move the valve selector to "OPEN VAPOR".



## CHECK BEFORE USE

Make sure to check the following before using the machine:

- Make sure the brushes are in good condition and mounted correctly and that the hoses are properly connected;
- Make sure that there is water in the tank and the pipe connection is properly done;
- Check the condition of the rubber pieces of the brush head.

## POSITIONING THE MACHINE AND START UP

- Connect the power cord to the mains;
- Position the machine on the escalator landing plate and raise the stand (if it is still lowered);
- Place the smaller side of the brush head (i.e. the side where there are no gears) as close to escalator border as possible;
- Activate the brake;
- Turn on the vacuum switch and then the brush switch;
- Open the manual tap and then switch on the pump;
- Regulate the detergent delivery pressure by setting it between 0.5 and 0.8 bar;
- Turn the escalator and ensure it is moving towards the machine.

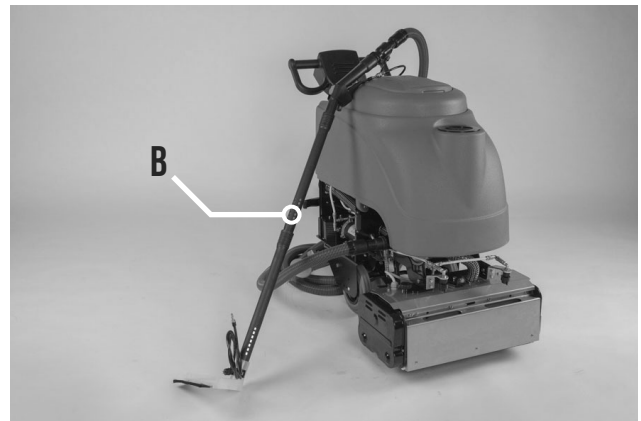
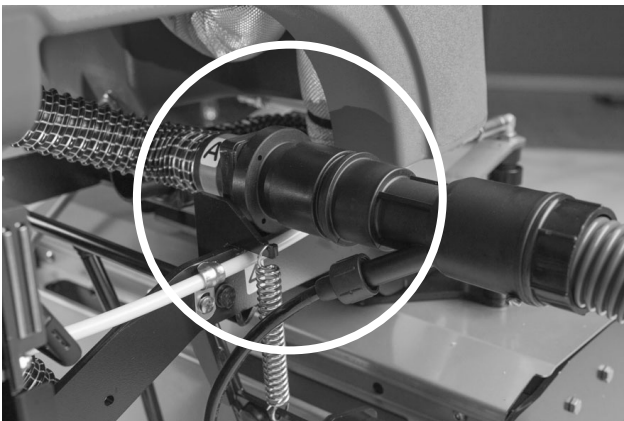
## ROTATING THE BRUSH HEAD

- Unscrew the fixing knob of the brush head;
- Rotate the head and tighten the knob;
- Position the machine on the side of the escalator that remains to be cleaned and repeat the previous operation;

## WASHING THE RISERS WITH THE WAND (optional for the BASE version)

Connect the manual wand to the ESCALATOR CLEANER unit as follows:

- Open the right side panel of the machine;
- Inside the machine, connect the hose A to mouthpiece 4;
- Connect the wand accessory to mouthpiece 4;
- Connect the spiral hose to the quick connector;
- Finally, connect the wand accessory (**B**) to the spiral hose.

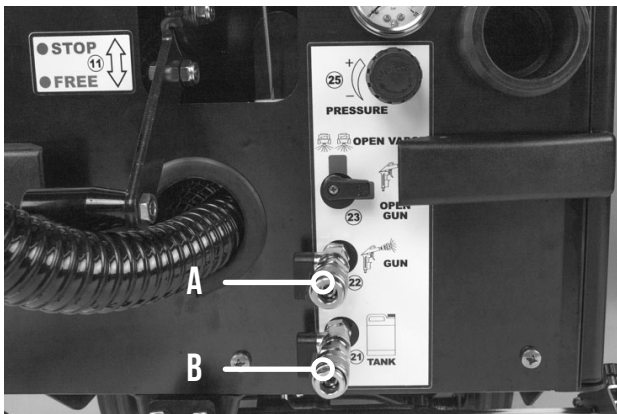
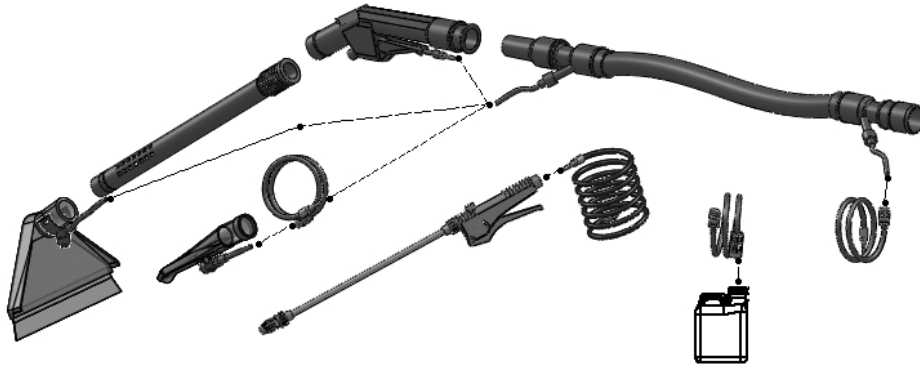




The accessory wand can be used to clean the front of the escalator steps.

To clean the wand accessory, proceed as follows:

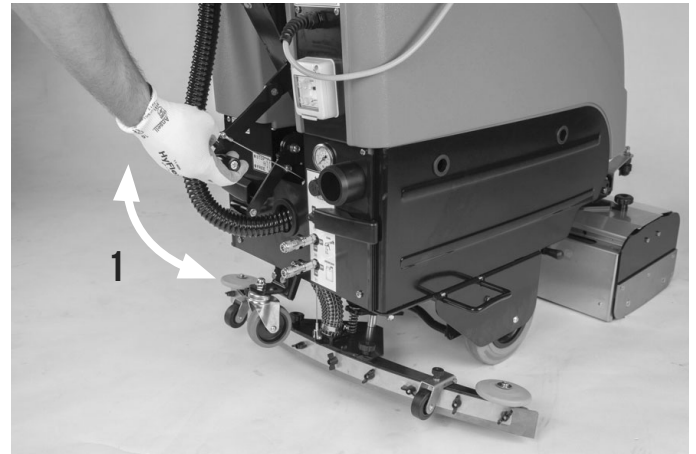
- Connect the wand accessory to the machine, as previously described (A ; B);
- Connect one of the two vacuum heads to the wand accessory;
- Fill the solution tank with a mixture of water and a universal degreasing detergent for cleaning escalators and move the valve selector to "OPEN GUN". Open the tap;
- Turn on the vacuum by using the proper switch and open the tap to activate the pump;
- Regulate the detergent delivery pressure by setting it between 0.5 and 0.8 bar;
- Vaporize the detergent on the desired area by pressing the control lever of the wand accessory



# USING THE MACHINE AS A SCRUBBER DRYER (TOP version only)

With the ESCALATOR CLEANER machine, it is possible to clean floors, even in the area close to the escalator. To use the machine as a scrubber-dryer, proceed as follows:

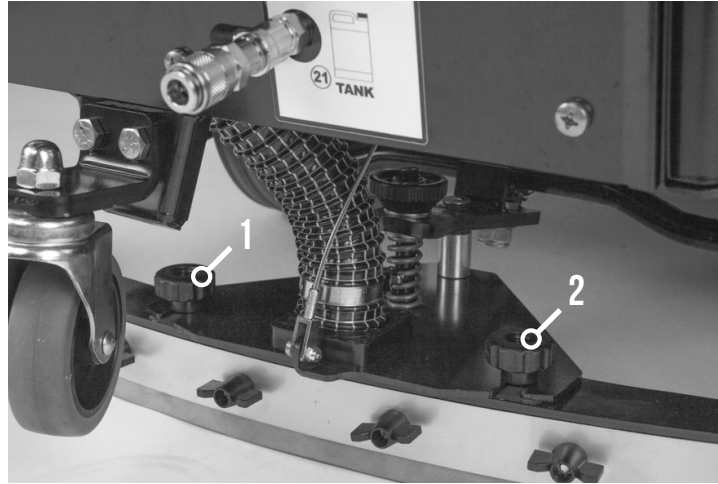
- Open the machine right side panel;
- Inside the machine, connect the hose A to mouthpiece 3. In this way, all dirt will be vacuumed into the recovery tank;
- Fit the squeegee (see the specific paragraph for getting further information about mounting the squeegee) and make sure that it is perfectly perpendicular to the floor; otherwise, regulate it by referring to the dedicated paragraph;
- Move the valve selector with the proper lever (1);
- Fill the solution tank with a mixture of water and detergent suitable for floors;
- Set the valve selector to "OPEN VAPOR";
- Press the brush switch and the vacuum switch;
- Lower the squeegee with the lever (1);
- Open the tap (2) and press the switch to enable the pump;
- Regulate the mixture delivery pressure to get the required amount of flow.



## FITTING THE SQUEEGEE (TOP version only)

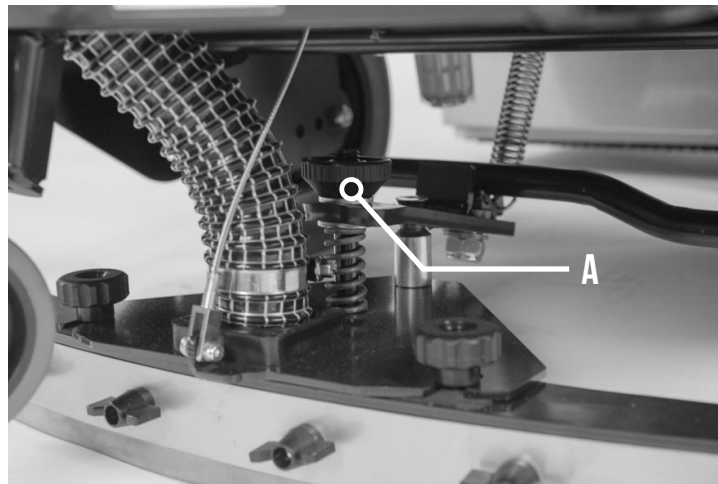
Follow the instructions below to mount the squeegee to the machine:

- DISCONNECT THE POWER CABLE FROM THE POWER MAINS
- Park the machine on a flat surface;
- Loosen the two knobs (1; 2) of the squeegee and then insert them into the holes of the squeegee connector and tighten the knobs.



## REGULATING THE SQUEEGEE (TOP version only)

To keep the squeegee perpendicular to the floor, use the regulation knob (A).  
The pressure can also be regulated by using the two screws on the wheels.



## INTRODUCTION

REGULAR AND PERIODIC SERVICING OF YOUR ESCALATOR CLEANER GUARANTEES OUTSTANDING PERFORMANCE OF THE MACHINE AND ITS LONG LIFE. THE PAGES THAT FOLLOW CONTAIN THE INFORMATION THAT WILL HELP TO PLAN THE CARE AND THE SERVICING THAT THE ESCALATOR CLEANER NEEDS.

## WARNING!

DO NOT CARRY OUT ANY MAINTENANCE OPERATION NEITHER ON THE MACHINE NOR ON ITS COMPONENTS WITHOUT HAVING FIRST STOPPED THE MACHINE, PUT IT ON A FLAT FLOOR AND DISCONNECTED THE STARTING BATTERY CONNECTOR.

ANY OTHER TYPE OF SERVICE OPERATION MUST BE CARRIED OUT BY QUALIFIED PERSONNEL OR AUTHORISED SERVICE CENTRES ONLY .

## WARNING!

DO NOT TAMPER WITH ANY SAFETY-RELATED PART.

THESE CAN BE REMOVED ONLY AS PART OF THE MAINTENANCE OF AN AUTHORISED SERVICE CENTRE.



## FITTING THE BRUSHES

To assemble the brushes (both types), proceed as follows:

- Unscrew the 3 screws by using the wrench and remove the side panel;
- Insert the brushes and pay attention to insert the hex slot into the hex motor pins;
- Reposition the moveable plate by inserting the pins into the cylindrical slots of the brushes;
- Close the plate by using the 3 screws.



## CLEANING BRUSHES IN THE TRAY

Use the stainless steel tray accessory (1) to clean the brushes. Proceed as follows:


- Lift the machine onto its stand;
- Place the stainless steel tray accessory (1) under the head brush;
- Pour a mixture of water and detergent (max 2 cm) for the washing of the brushes into the tray;
- Lower the machine from its stand and let the brush head rest into the tray;
- Open the machine's right side panel
- Inside the machine, connect the flexible hose A to mouthpiece 2. In this way, all the dirt will be vacuumed into the recovery tank;
- Fill the solution tank with clean water;
- Move the valve selector to "OPEN VAPOR";
- Turn on the vacuum and then turn on the brushes;
- Open the tap and activate the pump switch;
- Regulate the delivery pressure of clean water to obtain the correct flow.



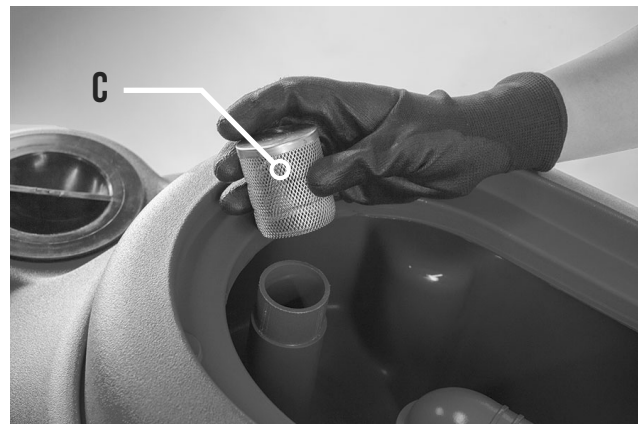
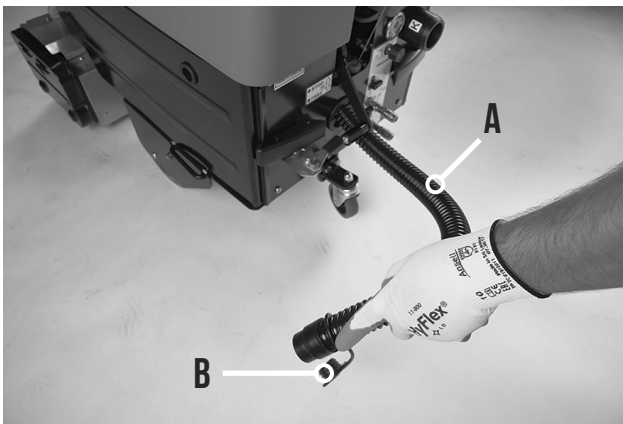


## EMPTYING / CLEANING THE RECOVERY TANK

The recovery tank must be drained and cleaned after each washing operation.  
In order to drain and wash the tank proceed as follows:

- Turn off the solution pump, brush function and vacuum; 
- Disconnect the power cable from the power mains;
- Move to the area dedicated to tank emptying, stopping on a flat section of floor;
- Remove the dirty water tank drain hose (**A**);
- Remove the safety cap (**B**);
- Once the tank has been emptied, remove the cover and carefully wash the inside with water.
- Wash well to make sure all residues are removed, even the smallest ones (sand) and also clean the closing valve well so it is always in good operating condition;
- Remove the filter and wash carefully (**C**).

During tank cleaning avoid any water spraying onto the control panel.



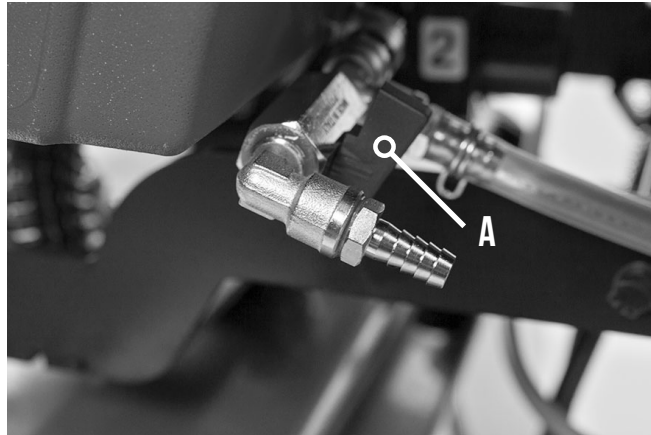




## EMPTYING / CLEANING THE SOLUTION TANK

After completing the washing operation, in order to drain any leftover water from the solution tank, proceed as follows:

- Turn off the solution pump, the brush function and the vacuum motor. Place the machine in raised-brush position;
- Move to the area dedicated to tank emptying, stopping on a flat section of floor;
- Disconnect the power cable from the power mains;
- Open the solution tank tap (A);
- Once the tank is drained, close the solution tank tap (A);
- It is recommended to flush the tank using only water once it is drained completely and then empty it; this will help prevent incrustations due to the detergent solution.



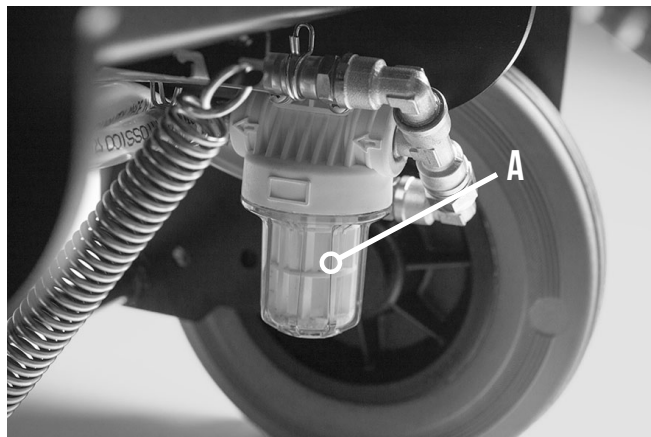
## CLEANING THE SOLUTION FILTER

The machine fits a filter on the tube that comes from the detergent solution tank.

The solution in the tank should be free of impurities since, during the loading phase, dry or clean containers should be used and there is another filter fitted on the filling mouth of the tank for filtering water.

To clean the filter, proceed as follows:

- On a flat surface, lift the machine on its stand;
- Unscrew the filter cap (A);
- Remove and clean the filter net. Clean the filter body too;
- Remove the net, making sure that it is centred on the cap cone;
- Screw the cap (A).



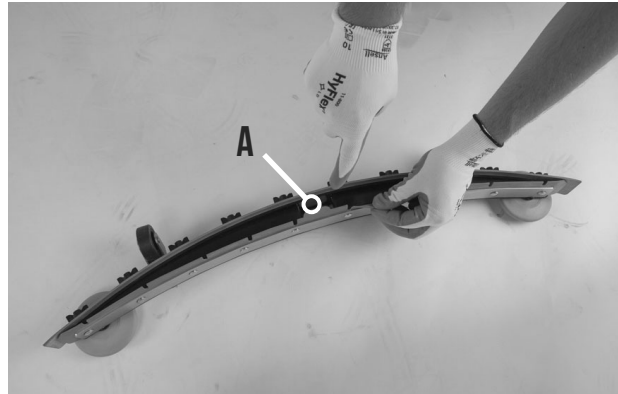


## CLEANING THE SQUEEGEE BLADES (TOP version only)

After the washing operation, clean the squeegee and check the condition of the blades.

Proceed as follows:

- Lift the squeegee with the lever;
- Unscrew both knobs;
- Remove the squeegee and rest it on the floor overturned (as shown in the figure), wash it with water and clean the lower side and the mouth (**A**) from small pieces or dirt in order that the proper vacuum flow is kept;
- Clean the back and front drying blades with a rag;
- Check the conditions of the blades and, if necessary, rotate them so as to have a new blade in contact with the floor (see following chapter).



## REPLACING THE SQUEEGEE BLADES (TOP version only)

The squeegee fits 2 drying blades, one on the front and one on the rear as it is given in the previous paragraph.

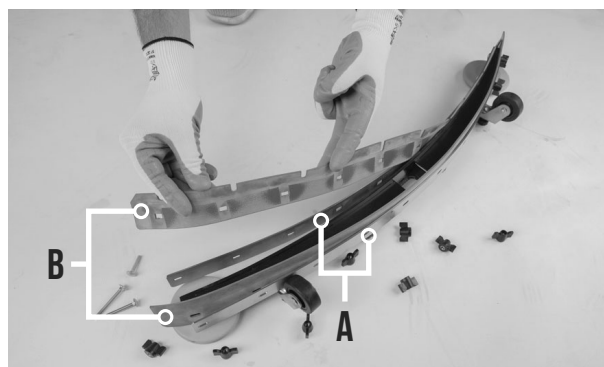
Each blade has four corners, so the blade can be rotated four times before being replaced.

To maintain the excellent level of the drying phase, make sure that the back blade corner that touches the floor is not worn. Otherwise, rotate or replace the blade.

### HOW TO REPLACE THE BLADES

For rotating or replacing the blades, proceed as follows:

- Remove the squeegee from the machine;
- Lock the squeegee in an overturned position as given in the figure;
- Remove the wing nuts;
- Remove the blade stoppers (**A**) and the blades (**B**);
- Rotate or replace the blades;
- Re-assemble by following the procedure in the reverse order. Don't overtighten the wing nuts (the rubber blade can be damaged). Position the wing nuts with the wings horizontal to the floor.





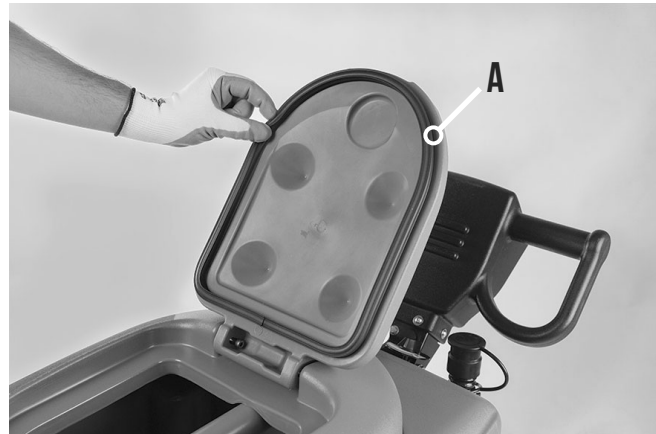
## CHECKING THE TANK GASKET

The recovery tank cover gasket (**A**) ensures the creation of the vacuum in the tank itself and this permits achieving a perfect vacuum on the squeegee.

The integrity of the gasket is therefore very important for correct machine operation.

To clean and inspect the gasket proceed as follows:

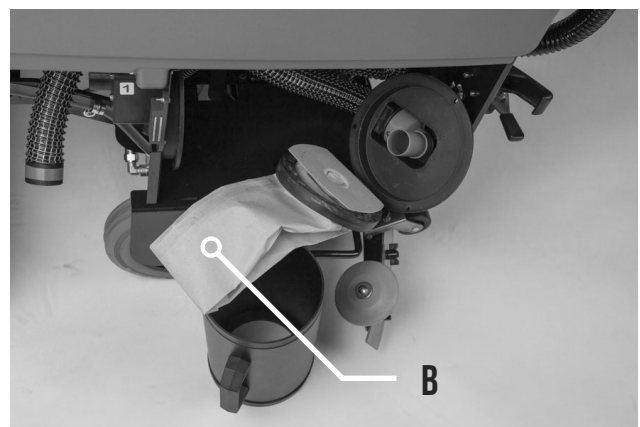
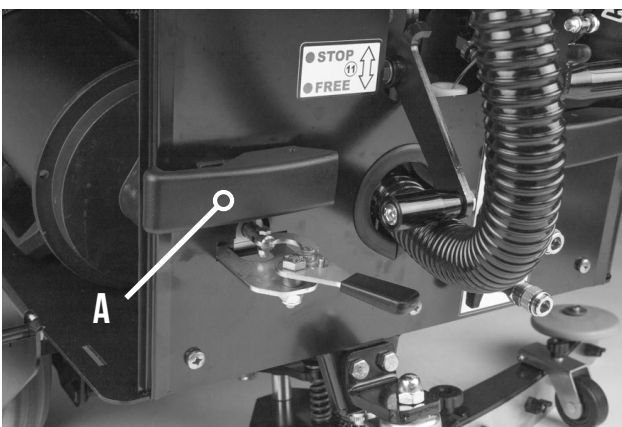
- Open the cover (**A**);
- Clean the gasket with a rag and make sure it is not cut or damaged;
- If it is damaged, replace it by removing it from its housing on the cover and fit a new gasket being careful to position the gasket joint in the rear area;
- Clean the area of the tank where the gasket rests when the cover is closed.



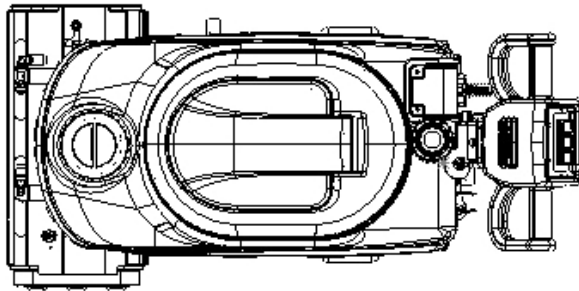
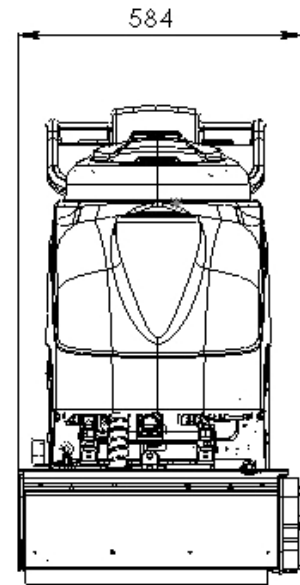
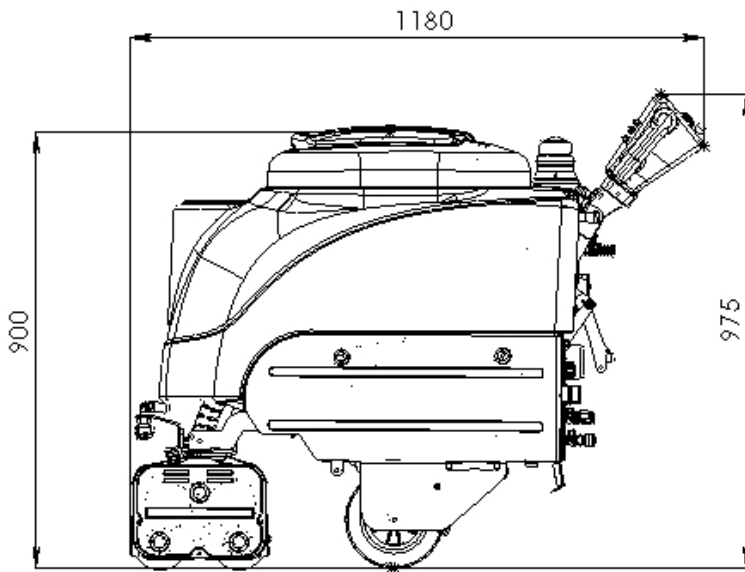
## FITTING / REPLACING THE BAG FILTER

When assembling or replacing the paper filter of the internal vacuum, proceed as follows:

- Remove the left side panel by using the proper hook (**A**);
- Pull the lever to release the internal vacuum;
- Remove the filter container;
- Insert the paper filter (**B**) into the mouthpiece and assemble the container again;
- Pull the lever down to lock the vacuum. Close the left side panel.







## TROUBLESHOOTING

WARNING ! ANY OTHER TYPE OF SERVICE OPERATION OR TEST, EXCEPTION MADE FOR THOSE SHOWN IN THE PRESENT MANUAL, MUST BE CARRIED OUT BY AUTHORISED SERVICE CENTRES ONLY

PROBLEM	CAUSE	SOLUTION
Not enough water flow on the brush	<ol style="list-style-type: none"> <li>1. Solution tank is empty</li> <li>2. Tap is closed</li> <li>3. Detergent solution filter clogged</li> <li>4. Solution duct clogged between tank and brush.</li> <li>5. Incorrect pump pressure setting</li> </ol>	Fill the tank Open the tap Clean the filter Make sure there is no incrustations Set the pressure of the pump between 0.5 and 0.8 bar
Not enough suction	<ol style="list-style-type: none"> <li>6. Vacuum pipe clogged or damaged</li> <li>7. Vacuum motor not operating</li> <li>8. Damaged gasket recovery tank cover</li> </ol>	Check and eventually replace the pipe Have it checked Replace it
The machine doesn't clean evenly	<ol style="list-style-type: none"> <li>9. Brushes are worn</li> </ol>	Change the brushes
The motor fails to operate	<ol style="list-style-type: none"> <li>10. Elevated motor absorption has tripped the circuit breaker</li> <li>11. The thermal problem of the brush gearmotor has tripped</li> </ol>	Reset the circuit breaker  Wait for the motor to cool and restart the machine
Circuit breaker continue to trip	<ol style="list-style-type: none"> <li>12. Motor continues to short circuit</li> </ol>	Replace the motor

# TECHNICAL CHART

## TECHNICAL SPECS

	ESCALATOR CLEANER
CLEANING PATH WITH BRUSH	mm 510
MAX BRUSH PRESSURE (ADJUSTABLE)	kg 30
SOLUTION / RECOVERY TANK CAPACITY	L 35 / L 35
CLEANING CAPACITY	m <sup>2</sup> /h 1000
WEIGHT (W/O BRUSH)	kg 95
WEIGHT (WITH BRUSHES AND FULL SOLUTION TANK)	kg 123
SIZES (W/O SQUEEGEE)	mm 1215 x 580; h=960
SQUEEGEE LENGHT	mm 870
BRUSH Ø , SQUEEGEE AND RPM	mm 115, RPM 400
REDUCTION BRUSH MOTOR (1 FOR EACH BRUSH)	V/Watt 230/900; Hz 50-60
VACUUM MOTOR	V/Watt 230/1200; Hz 50-60
WATER LIFT	mmH <sub>2</sub> O 2100
FRONT WHEEL IN PU (POLYURETHANE)	Ø 200
MAX GRADIENTS (WITH EMPTY TANKS)	2%

**VIBRATION:** The vibrations to which the operator is subjected is below the max allowed by the CE DIRECTORY for industrial Machines