

Operation and Maintenance Manual

Rotomatic

Automatic escalator Deep Cleaning Machine



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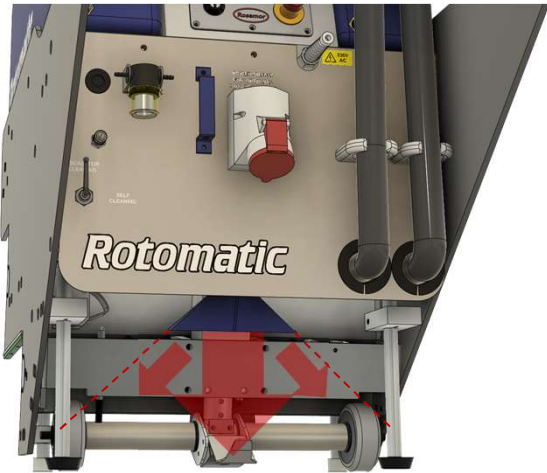


Designed & Assembled
in Oxfordshire, UK.

The *Rotomatic* A brief introduction...

“The Rotomatic is the most technologically advanced escalator cleaning system in the world!”

It's been several years in development. We've been listening to feedback from escalator cleaning machine operators and dealerships all over the world and this has led us to our newest and most feature-rich machine we have ever produced. We have literally reinvented the proverbial wheel.



Energy Efficient 2-stage step drying

All previous automatic escalator cleaning machines use suction to remove the wastewater from the steps. This works well, but still left some residual moisture and foam in the escalator step treads.

The new Rotomatic utilizes the very same suction as before **with the addition** of a powerful air-blower nozzle that blasts warm air at the steps leaving them even dryer and ready for use, than ever before seen.

Industrial Touchscreen Controller

Rotomatic comes with a powerful touchscreen interface. This allows the operator more control than ever before. Access onboard tuition and guides for the machine, view any errors or alerts (in order to be easily able to identify and correct them), select cleaning programs for both escalators and travellers (using the optional T10 traveller attachment) and access new features found only on the Rotomatic Escalator Cleaning Machine.





Automatic Self-Cleaning Mode

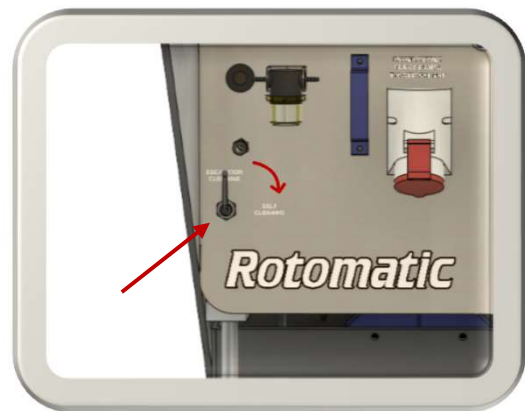
Rotomatic is equipped with a revolutionary new feature: **Self-Cleaning Mode**.

Now, after you've finished cleaning an escalator, save yourself valuable time and energy on the laborious task of manually cleaning the underside of the machine by now simply activating the self-cleaning mode.

Self-cleaning mode diverts and sprays clean fresh water back up inside the machine, across the brushes and flushes out the vacuum recovery tray all in one, automatic program that requires just 5 minutes (300 seconds) to complete.

This feature, combined with our new 10s 'Rapid' cleaning program, makes the Rotomatic the fastest and most efficient escalator cleaning machine in the world.

More info on this exciting new feature can be found on Pg. 26 of this manual.



Rosemor International Ltd reserves the right to adjust the machine and any documentation. This operation and maintenance instruction manual is intended for service personnel only.

Preliminary remarks

Safety and reliability are essential to guarantee a long and trouble-free service life of the Rotomatic. In order to fulfil these requirements, the operator must obtain sufficient skills in both handling and operating the machine and of its maintenance and care. It is therefore vital that the operator receives instruction and training from either Rosemor International Ltd or one of its specialists before the cleaning machine is used for the first time.

This operation and maintenance manual only represent additional assistance for the operator in correct and safe use of the cleaning machine. Reading this manual does not qualify any person for safe use of the Rotomatic.

Rosemor International Ltd or one of its customer service centre's should be informed immediately if any technical fault in this cleaning machine is suspected or has occurred.

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1. Safety Precautions

1.1 Preliminary Remarks

The automatic escalator deep cleaning machine (Rotomatic) was designed and manufactured according to state-of-the-art technology and in compliance with all relevant regulations. This, however, does not guarantee that some other unavoidable dangers for persons and property can occur. All personnel working with this machine must therefore read and follow these operating instructions, and in particular, be fully trained in all of the relevant safe operating procedures provided by Rosemor International Ltd or one of its authorised specialists.

These operating instructions must remain at the machine for use by the operator. Each operator must receive thorough training on handling and working with the machine.

1.2 Owner's duties

In accordance with EU directive on the use of operating equipment 89/655/EEC Art.6(1) and 7 and EU framework directive 89/391/EEC Art.1(1) and Art. 6(1), the owner of the equipment is obliged to instruct all persons, particularly with regard to safety, who will be authorised to work on assembly, operation, maintenance, repair or dismantling of the machine.

The owner is also obliged in accordance with EU directive on the use of operating equipment 89/655/EEC Art.4a to inspect the machine before start-up, following repair work and following faults or malfunction.

1.3 Intended and specified use

The automatic escalator deep cleaning machine Rotomatic is exclusively intended for basic cleaning of indoor and outdoor escalators. Any use beyond this stipulation must be considered as contrary to the manufacturer's intentions. The manufacturer will not be liable for any damage resulting from such work; all risk in this case will be borne exclusively by the operator. Correct use of the machine also includes compliance with the conditions of operation and maintenance stipulated by the manufacturer.

- The automatic escalator deep cleaning machine Rotomatic is not intended, nor suitable for cleaning hazardous dirt or substances.
- The machine is not fire-proof.
- The machine is also not licensed for use in cleaning public streets and paths.

1.4 Who may operate the machine?

The machine may only be used by persons who have been trained in its operation and who are expressly authorised to carry out such work. These persons should be at least 18 years old. All relevant accident prevention regulations and other generally recognised rules of safety, engineering, industrial medicine and the Highway Code must be strictly observed. Assembly, equipment, maintenance and repair work demand special knowledge and may only be carried out by specially trained persons.

1.5 Safety for the operator

- The user must under no circumstances touch the plug of the power supply with damp hands.
- When the machine is being disconnected from the power network, only the plug itself may be pulled - never the power cable.
- The machine may be repaired or opened only by qualified personnel.
- Non-Slip safety footwear is essential when using this machine.
- The operator should never be allowed to become distracted or startled when operating this machine. Do not try to engage in conversation or attain the attention of the operator when they are using this machine.



If work on the opened machine within connected current is absolutely necessary, such work may be carried out only by a qualified electrician who is familiar with all attendant dangers and the relevant work stipulations (VDE0100). When work is carried out on machine or parts when live, only tools specially intended for this purpose may be used.

1. Safety Precautions

1.6 Modifications and changes to the machine

It is forbidden for reasons of safety to carry out modifications to this machine. Any unauthorised modifications to the machine automatically invalidate all warranty and liability claims against the manufacturer for any damage caused by the modified machine.

Original parts and accessories have been specially designed for this machine. Parts and fittings made by other manufacturers have not been tested by us and are therefore not approved for use. Assembly and installation of such parts could impair the safety and the perfect functioning of the machine. Rosemor International Ltd expressly refuses to accept liability for any damage resulting from the use of non-original parts and accessories or from work carried out by unauthorised entities.

1.7 General safety instructions

- When the machine is not in use, it must always be locked away and the key removed. If it is not possible to lock away the machine, some other suitable measures must be taken to prevent unauthorised use.
- Neither the electrical nor mechanical safety devices on the machine may be changed or put out of action.
- It must be ensured that no other persons, in particular children, are in the vicinity of the machine when it is in operation.
- The machine may only be transported in elevators whose permitted load is adequate for this purpose.
- The machine should only be transported when it is loaded into its transportation trolley.
- When cleaning an escalator, always attempt to prevent slip and trip hazards by cordoning off the working area and placing out adequate signage to inform any person that should enter the area of the hazards that are present (such as trailing cables and slippery surfaces).

1.8 Safety instructions for mains operated machines

Care must be taken that the mains cable incurs no damage by being crushed, torn, frayed, driven over, etc. This connection must be examined regularly for damage, bare points, scorched areas, etc. The machine may not be used unless the mains connections are in **perfect** condition. The plug must always be disconnected prior to any cleaning or maintenance work on the machine, or when accessories are being fitted and replaced.

When parts, such as brushes, mains connection cables, plugs etc are being replaced; all technical data provided by the manufacturer must be observed and only original spare parts used. Otherwise safety of the machine could be impaired. If the power cable is damaged, it must be replaced by a service workshop approved by Rosemor International Ltd as specialist tools are required to properly carry out such work.

1.9 Information on the warning signs

The purpose of the warning signs used in this operating manual is to emphasise certain sources of danger in the automatic escalator deep cleaning machine, Rotomatic.

The following symbols are used in these operating instructions:



Indicates a possibly dangerous situation through contact with parts conducting electricity. Failure to observe these warnings could lead to death or serious injury.



Indicates a possibly dangerous situation. Failure to observe such warnings could lead to serious injury.



Indicates special information for optimum use or to facilitate operation of the machine.

1. Safety Precautions

1.10 Warning signs and stickers



Markings, warning signs and stickers may never be removed!

Damaged or illegible warning signs and stickers must be replaced or repaired immediately!

1.11 Product Liability

It is assumed that whenever the operator is transporting this machine, working on this machine or carrying out any maintenance task on this machine; that they will wear, at least, the minimum level of PPE (Personal Protective Equipment) as required by their local laws or regulations – This includes but is not limited to:

Eye protection



Hand protection



Foot protection

Ear protection



The operator is expressly notified that the machine must be used only for the intended purpose. If the machine is not used for the intended purpose, such use will be at the sole risk and responsibility of the user. Rosemor International Ltd will not accept any liability in such cases.

1.12 Emissions

The A-assessed equivalent continuous sound level of this machine measures 85 ± 2 dB (A).

It is recommended that the operator wear ear defenders when using this machine.

1.13 Leaving the machine unattended



If the operator wishes to leave the machine unattended, they must first lower the machine down, i.e. let the machine rest on the green glide rails/strips. The machine must then be moved as far forward onto the step (as though to start a cleaning program). In this lowered position, now move the Rotomatic to the bottom end of the escalator (where the cleaning would normally start). Remove the key and then disconnect and stow away the mains cable before leaving the machine unattended.

1.14 Procedure in case of emergency

Press 'Emergency Stop' button immediately to disengage power to the machine controls (this does not electrically isolate machine!) – If it is safe to do so, also disconnect power from machine. Make the emergency known to your supervisor.

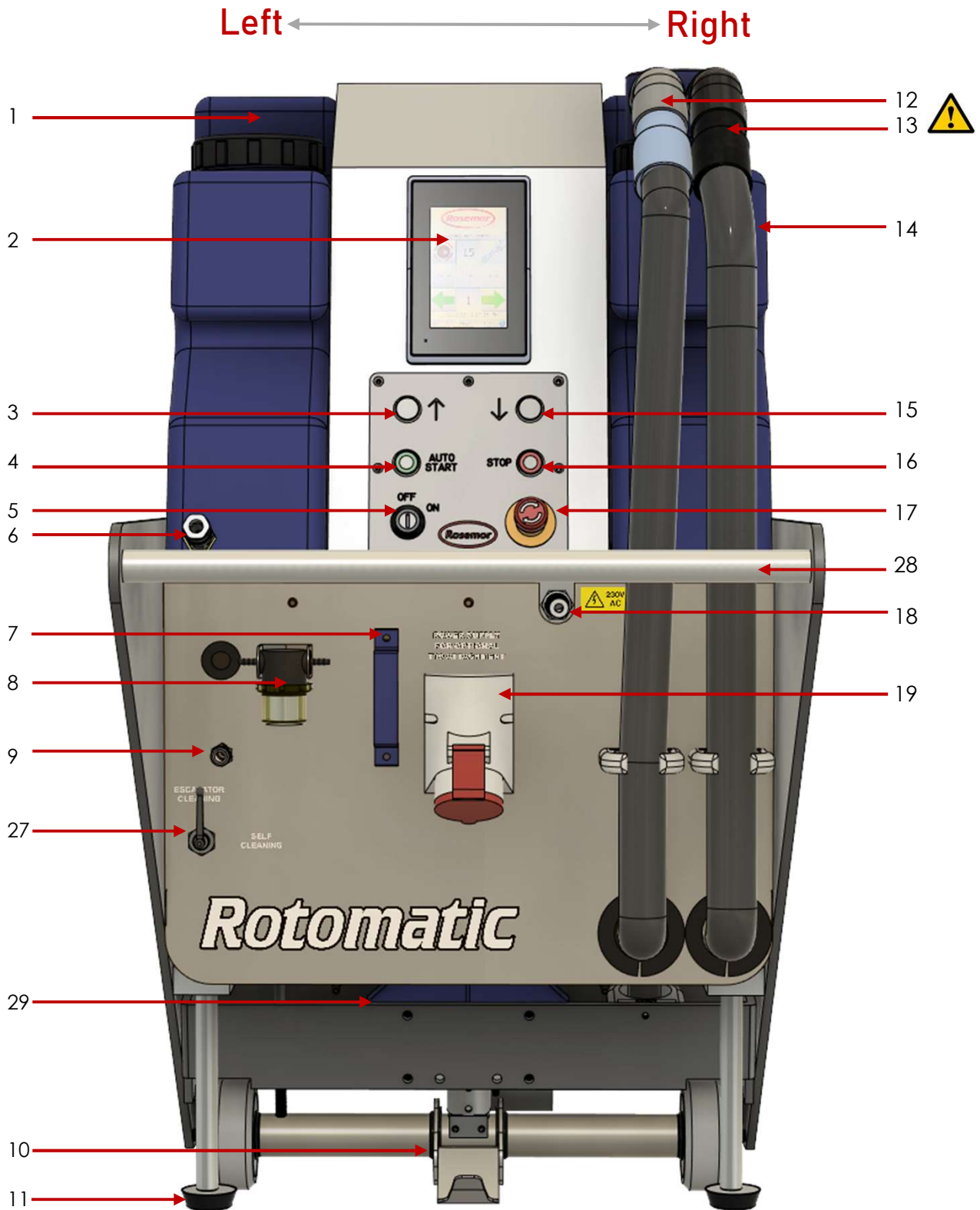
2. Description

2.1 Technical Data

Working width:		520 mm
Min step height:		185 mm
Max step height:		235 mm
Rapid cleaning per step:		10s (2x)
Fast cleaning per step:		15 s (2x)
Regular cleaning per step:		30 s (2x)
Intensive cleaning per step:		45 s (2x)
Deep clean per step:		60 s (2x)
Max. air volume of suction:		162 m ³ / h
Low pressure:		300 mbar
Type of current/ frequency:	AC for motors & low voltage DC for controls/pump	50-60 Hz
Rated voltage:		230v (115v available on request)
Rated power input:		1900 W
Power output:	Brush motor (inverter controlled)	750 W
	Suction motor (supply voltage)	1500W
	Leg Motors (inverter controlled)	2 x 180 W
	Pump & Solenoid (24vdc)	13 W + 14W (27W)
Number of brushes:		16
Max' Capacity of fresh-water tank:	Max 20L of premixed detergent (RC91)	20 L
Max' Capacity of dirty-water tank:	Recommend using 10-15L water and 1L detergent to make lifting easier	20 L
Max' Dimensions (on Trolley)	Length	1400mm
	Width	840mm
	Height	1050mm
Operational weight (Including filled fresh-water tank and mains cables):		170Kg
Noise level		85 ± 2 dB (A)
Automatic Self-Cleaning Mode	Automatic self-rinsing cycle flushes water through brushes and waste recovery tray to clean machine internally after use	5-minute automatic program

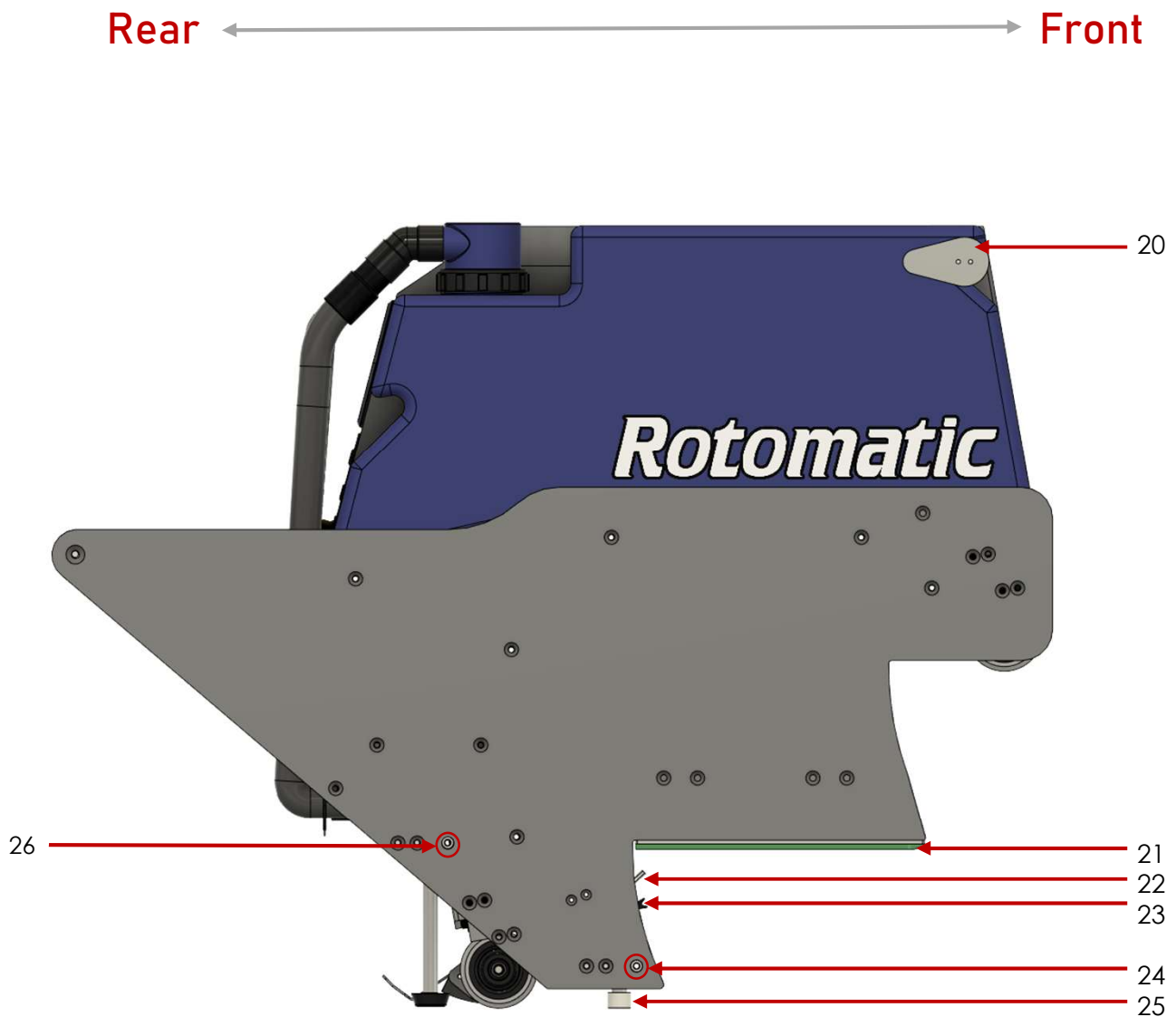
2. Description

2.2 Location of Components



2. Description

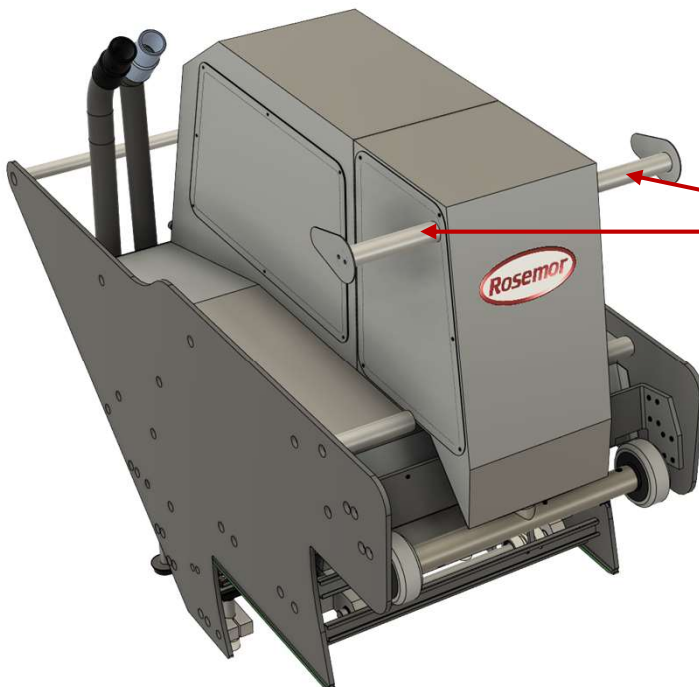
2.2 Location of Components



2. Description

2.2.1 List of Components

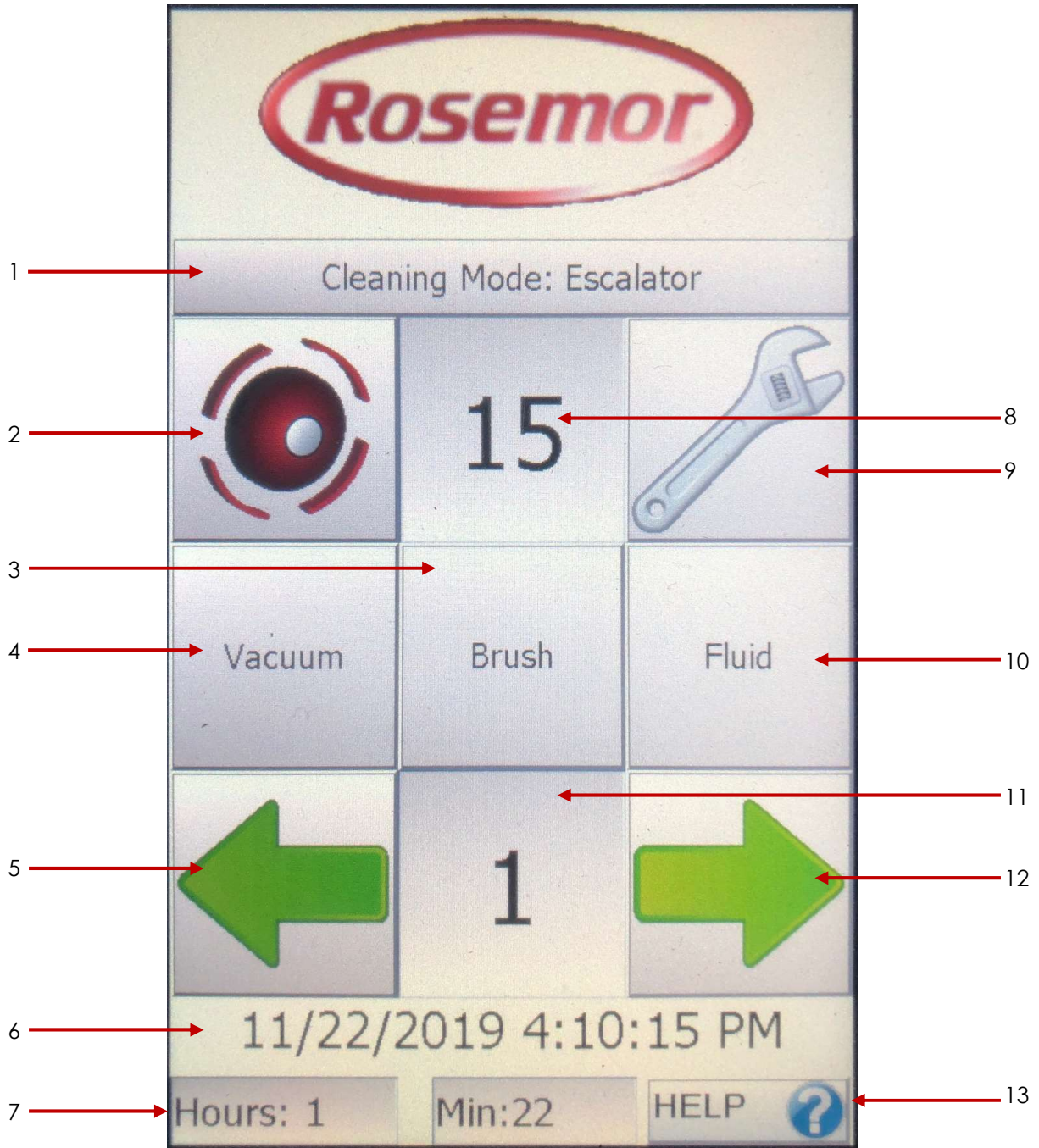
1. Clean Water Tank (Left)
2. Touch Screen
3. Raise Machine Button (Machine up)
4. Auto-Start Button
5. On/Off Keyswitch
6. Quick Release Tank Fitting
7. 6mm Hex-Key Holder
8. Detergent Filter
9. Quick Release Detergent Output (for use only with optional T10 Travelator Cleaner)
10. Automatic safety brake
11. Black Foot
12. Grey Hose Cuff **Note: Never connect grey cuff to black connector or vice versa!**
13. Black Hose Cuff **Note: Never connect black cuff to grey connector or vice versa!**
14. Wastewater Tank (Right)
15. Lower Machine Button (Machine Down)
16. Stop Cycle Button
17. Emergency Stop Button
18. Mains Supply Cable
19. Optional T10 Travelator Power Supply Outlet
20. Upper Tank-Stop and Retainer **NOTE: Do not use as a lifting handle!**
21. Green Glider Rail
22. Static Brush
23. Sealing Strip
24. White Foot Height Adjustment Screw
25. White Foot
26. Black Foot Height Adjustment Screw
27. Self-Cleaning Selector Valve
28. Handle
29. Step Drier Nozzle



Never lift the machine by the upper tank stops. Damage to yourself or the machine could occur.

2. Description

2.3 Touch Screen Functions and Layout



2. Description

2.3.1 List of Touch Buttons, Features and Functions

1. Cleaning Mode Selection: Escalator (or Travelator if using optional T10 attachment).
2. Alarm Menu – Pressing this will take you to a list of any active alarms or alerts.
3. Brush Jog Button – Press and hold to rotate brushes slowly.
4. Vacuum Test Button – Press once to switch on vacuum. Press again to switch it off.
5. Cleaning Program Selector (decrease).
6. Date and Time (used to monitor service intervals and operational logging).
7. Machine Hours/Mins Counter – Records the total amount of time spent cleaning.
8. Seconds remaining of currently selected cleaning program
9. Service & Maintenance Menu – Access to Service & Maintenance features of the machine.
10. Fluid Test Button – Press and Hold to independently operate cleaning fluid pump.
11. Cleaning Program Selection – Displays the currently selected cleaning program (1 – 4).
12. Cleaning Program Selector (increase).
13. Help Menu – Takes you to a range of onboard instructional documentation and diagrams.



There are a choice of 5 automatic cleaning programs to choose from:

- Program 1 – 10 seconds '**Rapid**' automatic cycle
- Program 2 – 15 seconds '**Fast**' automatic cycle
- Program 3 – 30 seconds '**Standard**' automatic cycle
- Program 4 – 45 seconds '**Deep**' automatic cycle
- Program 5 – 60 seconds '**Intensive**' automatic cycle

Each program automatically operates the vacuum, brushes and detergent injection for optimal cleaning performance.

3. Operation

3.1 Before Starting



All local safety regulations and instructions must be observed before each start-up. The escalator must be inspected jointly with the party responsible for the escalator, who should also be informed of any discoloration or paint stains etc. caused by repair and renewal work.

3.2 Install/Check brushes

If the cleaning brushes have not yet been installed, the forwardmost blue plastic brush access cover on the left side of the chassis can be opened with a 2mm hex key (see Fig. 1: Brush installation).



Always ensure the brushes are installed in the correct order (see Fig. 2 Order of the brushes). This can also be found under the help section on the touch screen.



Always keep hands and body parts away from brush rails and chains. Always remove hand/wrist jewelry and wear short sleeved shirt when changing brushes.

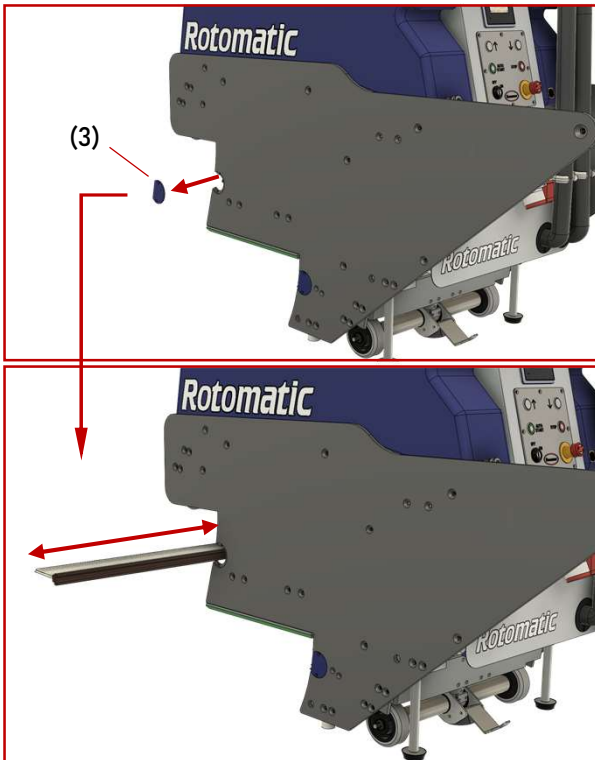


Fig. 1 Brush Removal/Installation

3.2.1 Procedure for changing the brushes:

Note: Rotomatic will need to be standing up on its legs outside of the transportation trolley in order to gain access to brush cover (3) and to prevent auto-start from accidentally being activated when changing brushes.

- Remove blue plastic brush cover (3)
- Press and hold 'Brush' button (Pg.12) on touch-screen briefly until a brush aligns with the opening in the chassis.
- Replace brush with same type as removed.
- Repeat this step until all brushes are replaced.
- Replace blue plastic brush access cover (3) – *Note: it is advisable to use a small amount of sealant around the cover aperture to prevent any water leaking through the cover during operation.*

3.2.2 Order of the Brushes:

- 1-Long White
- 2-Long Grey
- 3-Short Grey
- 4-Long White
- 5-Short White
- 6-Long White
- 7-Short Grey
- 8-Long Grey
- 9-Long White
- 10-Short White
- 11-Long White
- 12-Long Grey
- 13-Short Grey
- 14-Long White
- 15-Short White

Fig. 2 Order of the brushes



3. Operation

3.3 Filling Detergent Tank (Left) (See Pg.9-1)

- Detach quick-release coupling (See Pg.9-6)
- Place hand behind black lid of tank and pull forward towards you (Fig 3). Allow tank to rest on machine & handle so you may obtain a steady grip on the front and rear of the tank (Fig 4).
- Unscrew Lid to fill. You may add up to 20 litres of premixed RC-91 detergent. The dilution ratio for RC-91 is 10:1 (water:detergent).

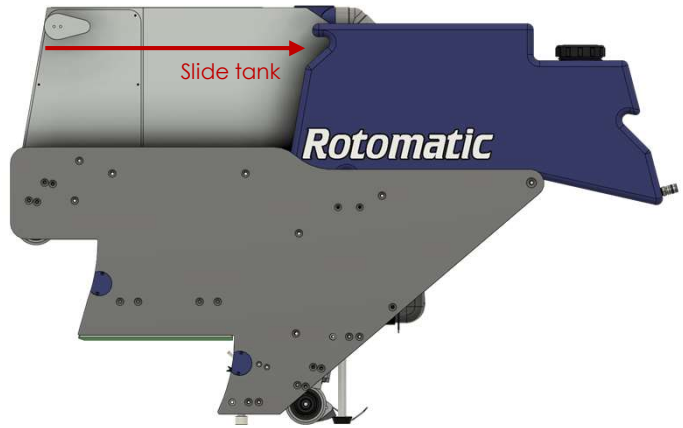


Fig. 4



Note: Filling the detergent tank with just 11-16 litres of detergent is recommended as this makes it much easier to lift and maneuver the tanks when full and reduces the chance of a lifting associated injury, accident or detergent spillage.



Every time the detergent tank (Pg.9-1) is refilled, it is of the upmost importance that the wastewater tank (Pg.9-14) is also emptied at the same interval, regardless of how much wastewater is present in the tank. This prevents accidental overfilling of the wastewater tank and subsequent damage to the machine's vacuum motor.



3.3.1 – Replacing Tank

When the detergent tank is refilled, rest the end of the tank on the machine and slide the tank forwards until the tank locates and locks into position on the upper (Pg.10-20) and lower tank stops.

Reattach quick-release coupling by pushing male end into female connector on tank.

Confirm detergent flows freely by briefly pressing 'Fluid' button on touchscreen until detergent can be seen coming from underneath Rotomatic. Be sure to mop/soak up any detergent left on the floor to prevent the chance of someone slipping.

When removing either of the two tanks, always place your hand behind the black plastic part of the lid and pull firmly towards you. The tanks are designed in such a way that they will not come out easily by any other means.

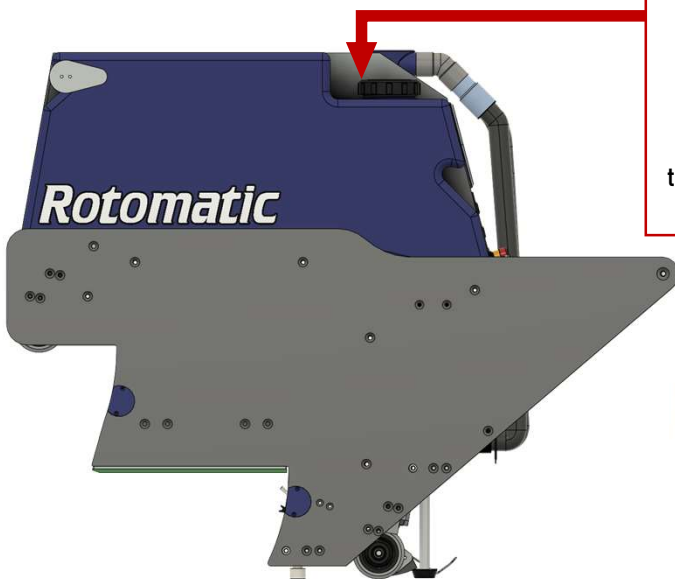


Fig. 3



If detergent fails to spray from the yellow spray jets underneath machine, you can check to see if the chemical filter (Pg.9-8) is blocked by unscrewing the bowl and rinsing the wire filter mesh under tap water and carefully reassembling.

3. Operation

3.4 Preparations on Site

The cleaning date should be co-ordinated with the maintenance personnel (possibly process electrician) in charge of the escalator.

The safety manager should also be informed if necessary.



Have the escalator operated by the relevant specialists and secured against being switched on by accident during cleaning!

The operator must plug in the mains cable for the machine, or a suitable socket must be shown to him.

The operator must furthermore obtain professional instruction on the manual control of the escalator or else ensure that some person familiar with the workings of the escalator is always available near by.

3.5 Safety measures on site

All unauthorised persons and the general public must be physically prevented from approaching and entering the entrances at both ends of the escalator by means of proper safety measures (e.g. barrier chains).

The machine, the transport trolley and, when available, accessories trolley are to be placed in the cordoned-off level area at the bottom of the escalator to prevent any unauthorised contact.

3.6 Preliminary Inspection and Work

Inspect the escalator thoroughly and report or take note of any pre-existing damage, mark or any other form of permanent stain etc.

Note: Rotomatic cannot repair any scratching or erosion caused by historic wear, corrosion, poor maintenance or accidental damage. It may actually appear worse after cleaning as any dirt that might have been disguising it will have been cleaned off and removed making it more prominent.

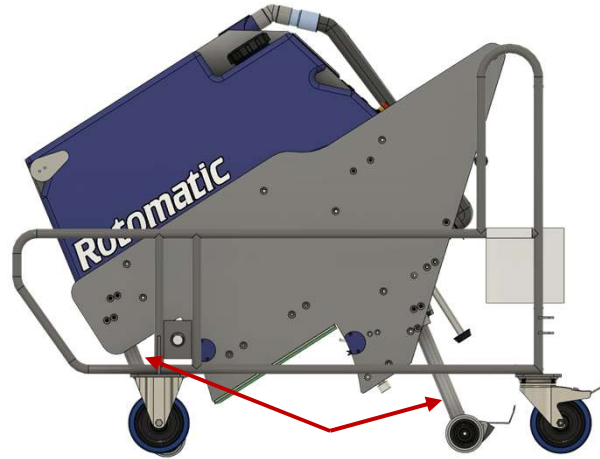
Remove any obvious large foreign objects by hand, such as drinks bottles/cans, cigarette boxes and other general litter.

Remove any large particulate dirt from the grooves in the steps with a hand rake before allowing the Rotomatic to clean it as this could impede the way in which Rotomatic cleans and collects the wastewater.

3.7 Removing machine from Transportation Trolley

Connect suitable mains power to machine and switch the keyswitch to 'on' position.

Press the 'machine up' button (Pg9-3) and hold until legs fully retract from machine and raise machine up. When the machine is at the correct level the lifting legs stop by themselves automatically.



Remove lynch pin from trolley axle and then slide out axle from one side of the trolley. Replace pin so as not to lose it.



3. Operation

Now, either roll the Rotomatic forward or the trolley backwards (or both) to separate the machine from the transportation trolley (Fig. 5)



Fig. 5

Safely, set aside the transportation trolley as it is not needed during the cleaning operation.

3.8 Positioning the machine on the escalator



Only ever load the Rotomatic onto the bottom of the escalator. Never, under any circumstance, attempt to load the Rotomatic onto an escalator from the top!

Ensure the escalator is switched off and is stationary.

Roll the Rotomatic onto the flat steps at the bottom until the front lifting legs make contact with the first semi-raised escalator step.

While the operator holds the Rotomatic handle (Pg.9-28), the designated escalator key holder turns on the escalator momentarily until the Rotomatic is pulled up the escalator into the correct starting position.

The correct starting position is approx. 5 steps high, until all the steps are fully unfolded and extended.

The escalator is then completely stopped, and the key removed and kept safe with the designated key holder.



Ensure the escalator is switched off by the relevant personnel and secured against accidental starting!

3.9 Leg Setting /Step Height Adjustment



Neglecting this step can create a severe risk of the machine tipping or falling. Always ensure the correct white and black feet adjustments have been made to suit the escalator you are about to clean.

The purpose of this step is to make important adjustments to the white (Pg.10-25) and black feet (Pg.9-11) so that they:

1. Allow the machine to sit perfectly level on its green gliders when it's lowered into position on an escalator step, ready to start cleaning.
2. Properly and safely support the machine when it is transitioning from one step, up to the next escalator step.

- Only commence leg setting if machine is sitting at the correct starting position as outlined in section 3.8 of this manual.
- Make sure machine is in centre of the escalator steps to carry out the leg setting, as you will need access to both sides of the Rotomatic.
- Using the 6mm Hex Key (Pg.9-7) Loosen off all 4 adjustment screws (2 on each side) (Pg.10-24&26)
- Move only the rear left black foot as far up as it will go and lock the adjustment screw, so it does not move anymore. (Fig. 6)

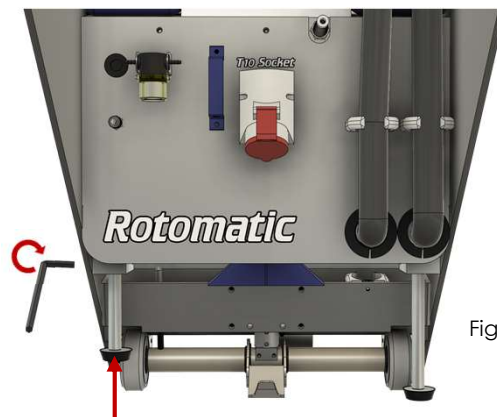


Fig. 6

3. Operation

3.9 Leg Setting /Step Height Adjustment Cont'

- Now press and hold the machine down button (Pg.9-15) until the machine sits perfectly flat on the green gliders (Fig.7)

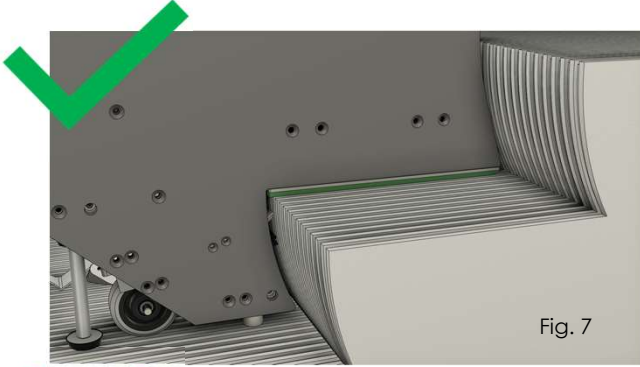


Fig. 7

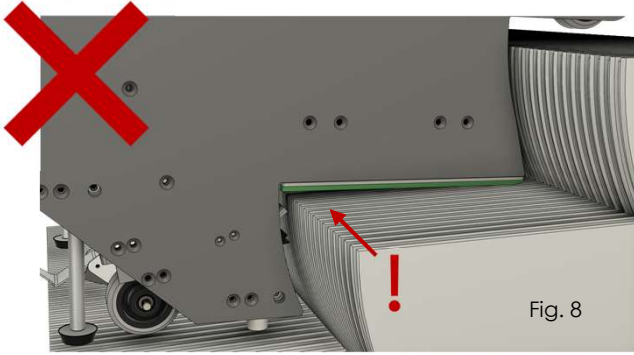


Fig. 8

- If the Rotomatic sits unevenly on the step (Fig.8), use the up and down buttons to carefully position it so it sits flat (Fig.7).
- With the green gliders sitting perfectly flat on the step, you can tighten the 3 adjustment screws that were left loose (all apart from the rear left black foot) (Fig.6).



Incorrectly adjusted white and black feet will mean the operator will need to use more force to move the machine and that the machine may not be balanced safely and/or correctly on the step especially when transitioning up the escalator.

- Now loosen the rear left black foot adjustment screw as well (Fig.6) to allow the black rubber foot to contact the escalator step and then finally retighten the adjustment screw (Fig.6) to lock it in position.
- Check one final time to ensure you have completed the leg setting correctly:

Raise and fully lower the machine in position once more.

Check that both green gliders, both black rubber feet and both white feet are all sat equally and uniformly on the step (Fig.9 below). The rear wheels should be approx. 1-4mm above the step also.

If any of the above is not the case, you must carry out the leg setting procedure again before commencing the cleaning operation.



When the leg setting has been properly completed and the machine is sat flat on the steps (with the legs fully retracted into the machine), the 'AutoStart' button will flash to indicate that the machine is ready to begin a cleaning cycle. See Fig. 9

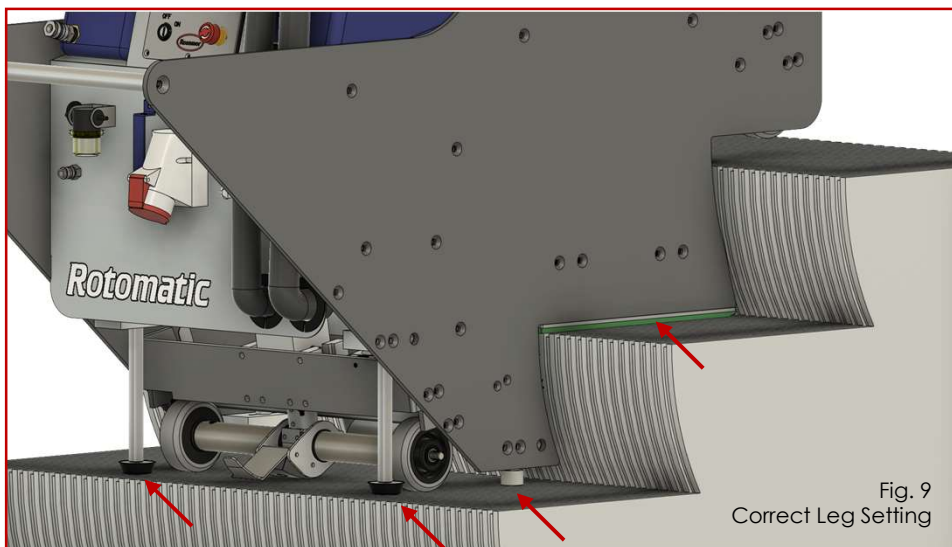


Fig. 9
Correct Leg Setting

3. Operation

3.10 Select Cleaning Program

There are 5 cleaning programs to choose from, each has been thoroughly tested and scrutinised to deliver the optimum cleaning performance with the minimal amount of detergent use.

You can select any one of the 5 different programs by pressing the green left/right arrows on the touchscreen. (See Fig. 10)

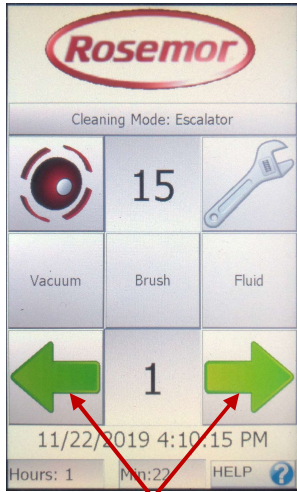


Fig. 10
Cleaning program selection buttons

Press the right arrow to increase the program cycle number and the left arrow to decrease the program cycle number. The number indicated at the top centre of the touch screen displays the amount of time the currently selected program has remaining.

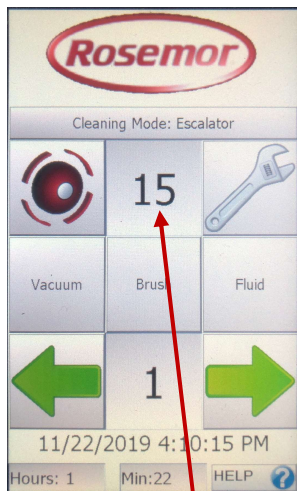


Fig. 11
Time remaining on currently selected program

3.10.1 Cleaning Programs Explained

Here is a breakdown of the 5 cleaning programs available to the operator:

Program 1: 10 seconds

Rapid Cleaning – For use when there is minimal dirt on the steps or to ‘top-up’ an existing program where a little extra cleaning is required to obtain optimal results.

Program 2: 15 seconds

Fast Cleaning – This is the standard program cycle for fast efficient cleaning of most escalators that have been regularly cleaned.

Program 3: 30 seconds

Standard Cleaning – Use this program when there is a moderate amount of dirt across the steps.

Program 4: 45 seconds

Deep Cleaning – Use this program when the steps are significantly soiled and dirty.

Program 5: 60 seconds

Intensive Cleaning – Only use this program for the dirtiest escalators that have never been cleaned or that have been seriously soiled.



Always choose the fastest cleaning program you can to suit the job at hand.



When cleaning an escalator, always trail the cable in a safe manner where it cannot be possible to trip over or tangle up with it.

3. Operation

3.11 Cleaning the Escalator

Now you have decided on the most suitable cleaning program for your escalator, we can proceed with the cleaning process.

3.11.1 Shimmying the machine sideways

First make sure the machine is positioned fully to the right (or the left) of the escalator. This can be achieved by **shimmying** the machine sideways.

This is essentially just the action of lifting and pushing on the Rotomatic handle to allow lateral (sideways) movement on the step.

1 - To do this, raise the Rotomatic up so the green gliders are about 5cm above the step. Fig. 12

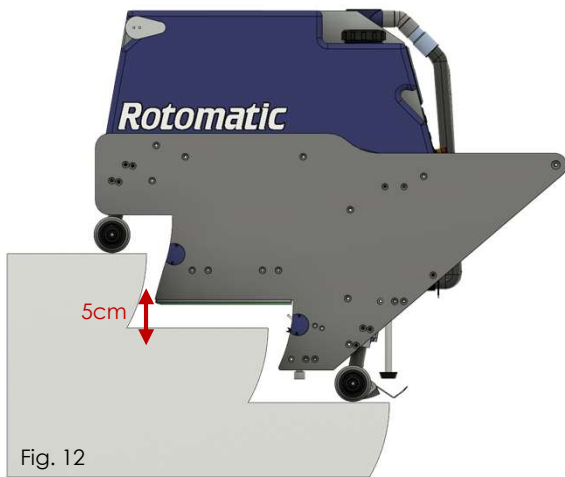


Fig. 12

2 - Then, push down firmly on the Rotomatic handle whilst simultaneously pivoting the front end of the machine in the desired direction you wish to move it. Fig. 13



Fig. 13

3 - Once you have achieved some diagonal movement on the step. Lift the handle and pivot the rear end of the machine in the same direction. Fig.14

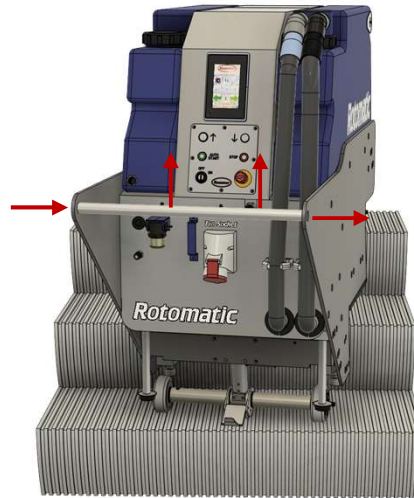


Fig. 14

Repeat steps 2 and 3 until you have reached your desired position on the escalator. Fig.15



Fig. 15

Before you lower the machine down to commence cleaning, briefly press the 'brush' jog button on the touchscreen to draw the brush bristles back inside the machine to prevent them from being trapped. Fig. 16



Never start shimmying the machine until you have raised it 5cm above the steps. Serious damage to green gliders will occur if not careful!

3. Operation

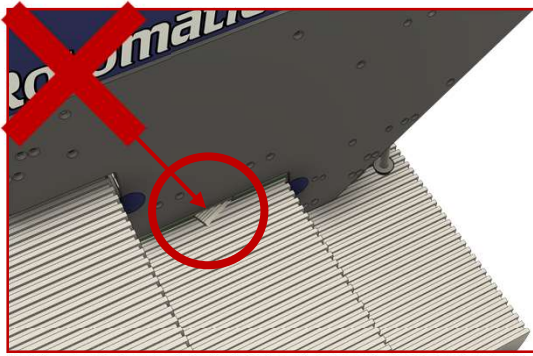


Fig. 16 Trapped Brush Bristle

3.11.2 Cleaning a Step

Once the Rotomatic is lowered on the step and you are sure you have the correct cleaning program selected, the 'AutoStart' button should be flashing green.



If the AutoStart button does not flash, try pressing and holding the machine down button, to fully retract the legs inside the machine.

Press the 'AutoStart' button to commence the cleaning program.

Depending on the program you have chosen the machine will run through a cleaning cycle for up to 1 minute, before coming to a stop automatically.

When the cleaning cycle is complete, place one hand on the handle and with the other hand press and hold the 'machine up' button to raise the machine. Fig. 17

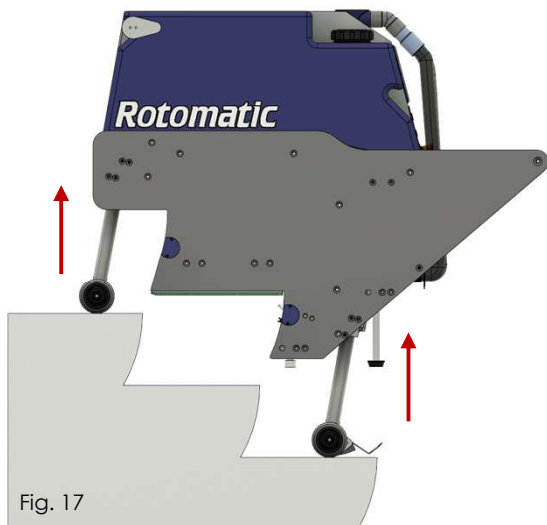


Fig. 17

Next, gently roll the machine forwards until the wheels contact and stop against the next step. Fig. 18

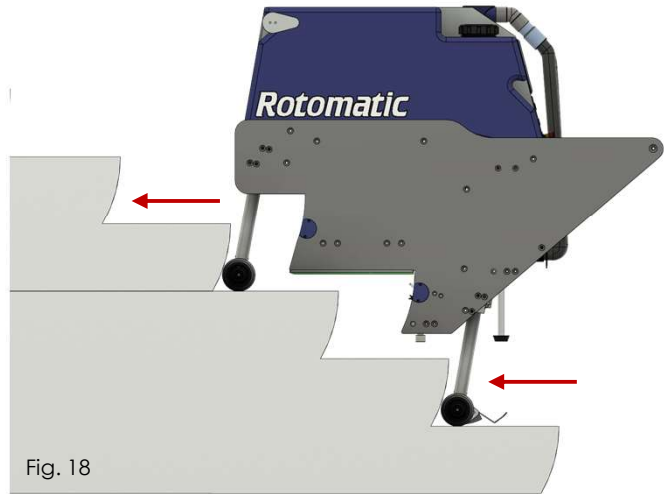


Fig. 18

Press and hold the 'machine down' button and keep it held until the legs fully retract inside the machine.



Full concentration on the task at hand is required when moving the machine up the escalator. Even a brief lapse in focus could lead to the machine falling from the steps. Do not allow yourself to be distracted when operating this machine!

At this point the machine is merely perched on the edge of the steps. DO NOT LET GO of the handle at this point! Take the handle with both hands and push the machine firmly forwards until it locates fully onto the step. Fig. 19

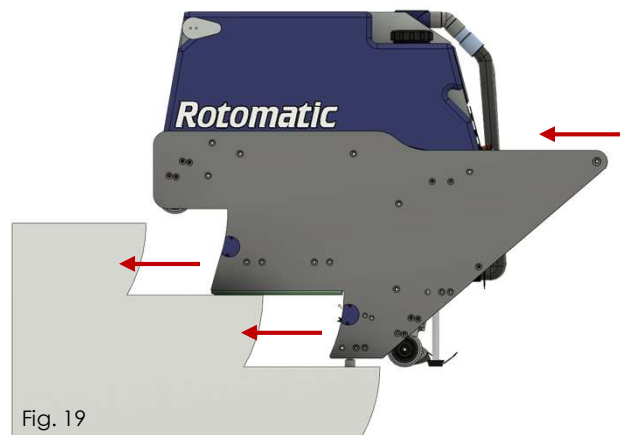


Fig. 19

3. Operation



When raising the machine up on the steps, the operator must be careful that the front of the green gliders do not get hung up in the grooves on the risers of the steps.

Again, checking that there are no trapped bristles under the machine (Fig. 16) you are in position to clean and can proceed to press 'AutoStart' button again to begin cleaning the next step. Fig. 20

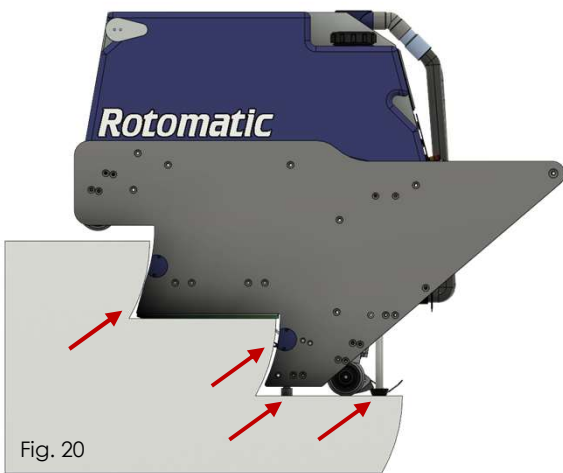


Fig. 20

3.11.3 Cleaning an entire Escalator

Repeating the above steps will allow you to clean from the bottom to the top-most **fully extended** escalator steps.

When you reach the top of the escalator (or about 3-4 steps from the top where the last fully extended step is), you are ready to begin again from the bottom.

Move the Rotomatic to the centre of the escalator, sit it flat on its green gliders and push it as far forward as it can go on the step (Fig. 20). Finally remove the mains power cable and set aside where it cannot be tripped over or tangled with the moving steps.

Have the authorised escalator key holder switch on the escalator in the **DOWNWARDS** direction and bring the Rotomatic back down to where you started, approx. 5 steps up from the bottom. Switch off the escalator and remove the key once more.

From here, you can continue to clean up to the top once more. You repeat the last step until finally you connect with the same step you started cleaning on.

You have now cleaned one side of the escalator and (unless you have a single width escalator) you will need to clean the opposite side to what you have just cleaned, in order to complete the cleaning process.

Shimmy the machine over to the other side as outlined on **Pg. 20 – 3.11.1.**

3.12 Additional Manual Cleaning

Some manual hand cleaning tools are provided with every Rotomatic machine. These tools are there to tend to fine detailing and finishing of the step cleaning process i.e. such as removing grit and stones from treads or wiping away residues left at the step joints or other tight crevices.

3.13 Refilling the Tanks

The operator must carry out regular checks of the clear PVC tube and chemical filter bowl to ensure that the machine is receiving a supply of detergent solution. If bubbles or foam appear in the tube or if no liquid can be seen, the detergent tank is empty and must be refilled.

Lower the Rotomatic down on the escalator step and refill tank with fresh water and detergent according to instructions in Section 3.3 on Pg.15.



When the detergent tank is refilled, it is essential that the wastewater tank is also emptied at the same time!

3.14 Emptying the wastewater tank

When the detergent tank is empty and due to be refilled, you must also empty the wastewater tank at the same interval.

Remove the wastewater tank by pulling out the grey and black hose cuffs (Pg.9-12&13) from the tank lid and set the hoses off to the side. Fig. 21

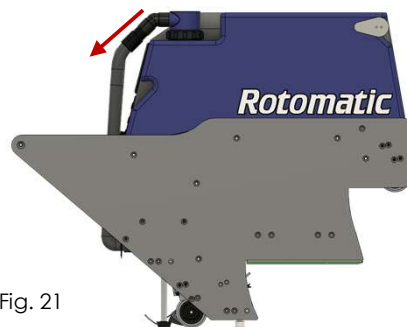


Fig. 21

3. Operation

Place your hand behind the black plastic part of the lid assembly and pull towards you.
Fig. 22

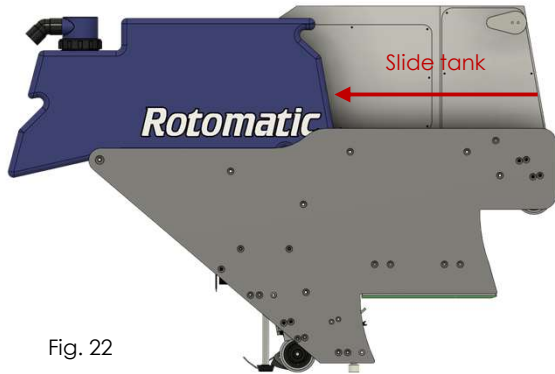


Fig. 22



Never pull directly on the blue plastic part of the lid assembly, always pull from behind the black plastic part of the lid.

Allow the tank to slide out from the machine. Let the tank rest of the Rotomatic handle so that you can get a sturdy handhold at the front and rear of the tank to allowing you to safely lift it our of the machine for emptying.



All local laws and regulations regarding wastewater must be strictly observed when the dirty water is being emptied out.

Slide the tank back into the machine in the same way you pulled it out. Reconnect the vacuum hoses. Pay special attention to the colour of the hose cuffs. There is one grey cuff and one black hose cuff. The grey hose cuff goes to the grey pipe on the lid and the black hose cuff goes to the black pipe on the lid.



Never swap or accidently mismatch the hose connectors. This will permanently damage the vacuum motor!

3.15 Removing machine from the escalator

After you have completed cleaning every step, you will need to remove the machine from the escalator.

This can be done safely in two ways:

1 – **Off at the Top** – You can use the ‘machine up’ and ‘machine down’ buttons to walk the machine up the escalator and off the top of the escalator. You would need to have the transportation trolley ready at the top of the escalator.

2 – **Off at the Bottom** – Follow steps in 3.11.3 to bring machine down to approx. 5 steps high. Now have the authorised escalator key holder bring the machine down on the steps slowly and in small increments of travel by turning the escalator on and off every few seconds. This is sometimes referred to as ‘inching it down’.
Fig. 23

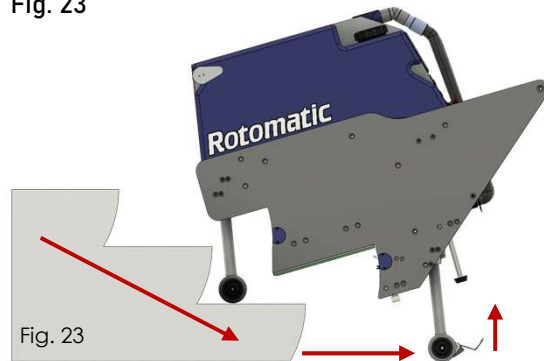


Fig. 23

When you reach the flat steps at the bottom of the escalator, use your foot to lift the safety brake on the rear leg, as the machine rolls over the escalator comb.



It is recommended that escalator key holder must be trained by the escalator supplier in the correct operation of the escalator.



Even though it is safe to remove the Rotomatic from the top of an escalator, you must never attempt to load the Rotomatic on from the top of the Escalator!

3. Operation

3.16 Use of the Transportation Trolley



Fig. 24 Transportation Trolley

Unless you are rolling the machine into position near an escalator, never move the machine around without the transportation trolley. This trolley is designed to protect the lifting legs & wheels of the Rotomatic from lateral forces and impacts associated with normal transportation.

Not to mention, the Rotomatic is also significantly easier to manoeuvre when it is placed into its transportation trolley.

To place the machine back into it's trolley:

1 – Raise machine fully using 'machine up' button. Fig. 25

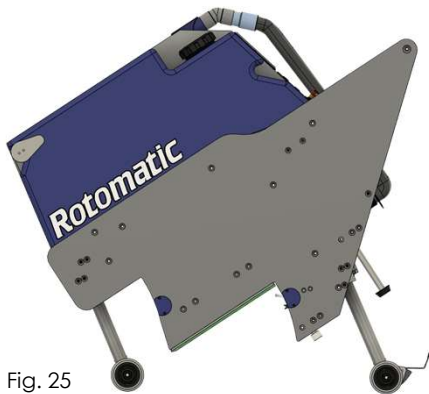


Fig. 25

2 – Roll trolley into position around the Rotomatic. Fig 26



Fig. 26

3 – Slide trolley axle through trolley under the Rotomatic. Fig. 27



Fig. 27

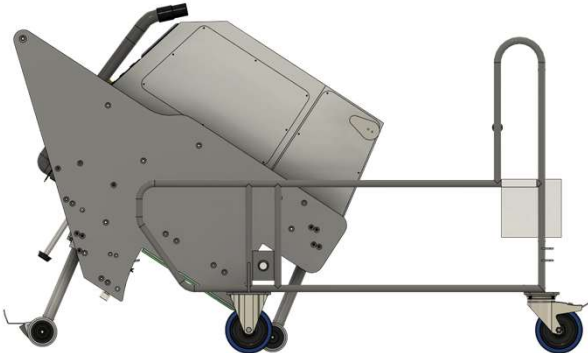
4 – Press 'machine down' button until legs fully retracted inside of machine and machine is fully supported by the trolley and axle. Place security back into end of axle.

3. Operation

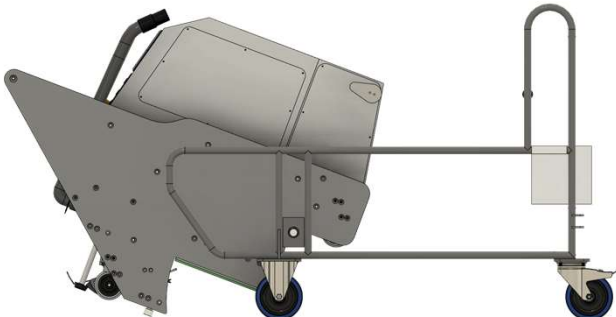
3.16.1 Service Mode

It is possible also, to use the trolley to safely gain access to the underside of the machine, this is referred to as 'Service Mode'.

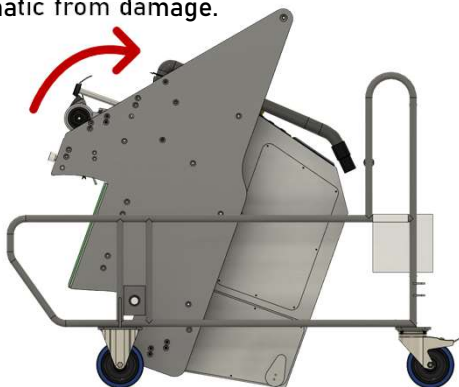
To put the Rotomatic into service mode, first remove both the blue plastic tanks. Next, remove the machine from the trolley and place it back into the trolley with the front of the Rotomatic entering first as shown below.



From here, set the brakes on the trolley and replace the trolley axle, press the 'machine down' button to lower the front end of the Rotomatic onto the trolley axle. Shown below.



Unplug the Rotomatic and take it by the handle and pivot it over the trolley axle until the Rotomatic rests on the front face of the machine, as shown below – **Note:** It is advised to place some cardboard (or other protective surface) on the ground to protect the front of the Rotomatic from damage.



Service mode is useful for routine inspection and intensive cleaning of the brush assembly area of the Rotomatic.

You should periodically inspect the consumable items for wear and damage, such as: (Fig. 28):

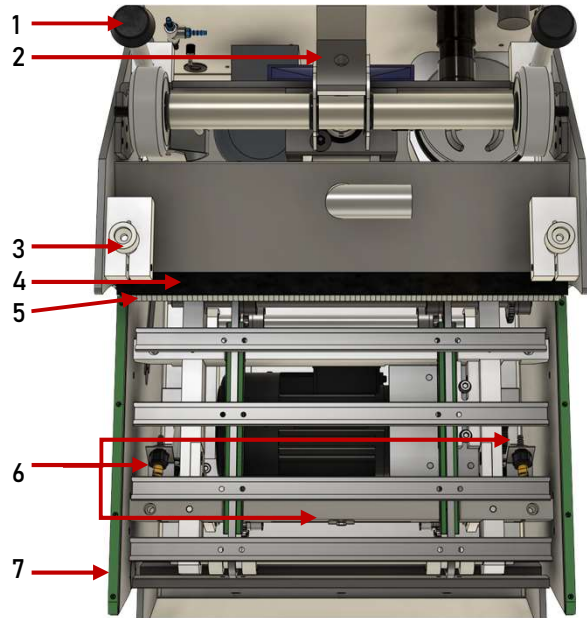


Fig. 28 (Note: Cleaning Brushes Removed)

- 1 – Black Foot x2
- 2 – Serrated Brake Pad
- 3 – White Foot x2
- 4 – Sealing Strip
- 5 – Static Brush
- 6 – Yellow Spray Jets x3
- 7 – Green Glider

If any of the above is found to be worn, damaged or missing, then do not use your Rotomatic. Instead call your local Rosemor machine Dealer.

More info on machine maintenance on Pg. 27



Always make sure the brakes are pressed-on, on the trolley before you attempt to put the machine into service mode.

3. Operation

3.17 Self-Cleaning Mode

After completing an escalator clean, before storing the machine away, you must run a 'self clean' cycle.

This is an automatic program that will spray and rinse clean water throughout the brush assembly and vacuum recovery area. This ensures that the machine is thoroughly rinsed of all built up dirt and residues from the last cleaning job.

To commence the self-cleaning mode:

1 – Make sure machine is sat normally in its transportation trolley, as below.



2 – Fill the detergent tank with 10 litres of clean fresh tap water and place back inside the machine. Make sure the wastewater tank is present and correct too

3 – Move the Rotomatic to your designated sluice or wet room (or other area where drainage is present or wetting of the floor is not an issue or hazard).



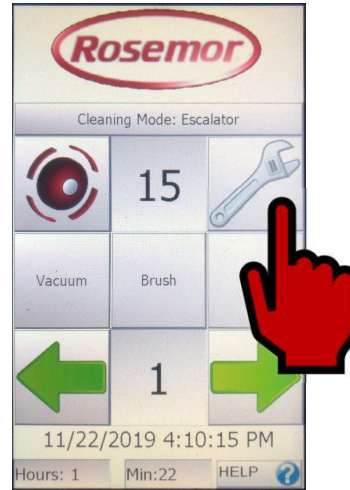
Dirty water will pour out from the underside of the Rotomatic during the self-clean cycle! Make sure you are in an area where this is acceptable!

4 – Turn the Selector Valve (Pg.9-27) to 'Self Cleaning'



Fig. 29 Self-Clean Selector Valve

5 – Press the 'Wrench' icon on the touchscreen to be taken to the maintenance menu of the machine.



6 – Now press either the 'Self Clean' button the touch screen or press the 'AutoStart' button to commence the Self-Cleaning Mode.



It is possible to customise the self-cleaning process by individually controlling the water, brushes and vacuum. However, it is advised to just let the 5 minute cycle run normally as this is best use in most cases.

7 – The Self-Clean cycle will run for 5 minutes (300 seconds). During this time the brushes will rotate, and water will begin to run out from the bottom of the machine as it cleans itself internally.

After 270 seconds the water will stop flowing and the vacuum will run for the last 30 seconds of the cycle to remove any excess or standing water from the brushes and in the vacuum system.

When the cycle finishes; if the water was not running clear at the end of last self-cleaning cycle, you can choose to run the cycle again.

Otherwise, simply store the machine away in a cool dry area, ready for it's next use.

4. Maintenance

4.1 Maintenance



Before any maintenance or intensive cleaning is undertaken, the machine must be disconnected from the mains.



During cleaning or maintenance work on the machine, when parts are being replaced or new equipment fitted, care must be taken that the machine can not accidentally start, move or fall.

If the operator has any questions or doubts regarding safety, he must request advice from the manufacturer or the relevant sales agent before starting on the machine.

4.2 Daily Care

- Inspect and examine the mains power cable for any damage whatsoever.
- Make sure the waste tank is always kept empty and well rinsed with clean water.
- Inspect brushes for wear or damage.
- Clean Static Brush

4.3 Weekly Care

- Wipe down and lightly lubricate the lifting leg shafts (a light PTFE lubricant such as GT85 is recommended) Fig. 30
- Check clear PVC tubes for kinks and leaks.
- Check the black sealing strip is present and correct.

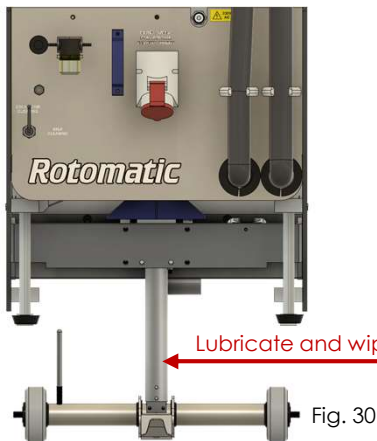


Fig. 30



Maintenance work may only be carried out by trained personnel

4.4 Maintenance after 30 hours cleaning

- Check brush chains for tension and adjust if necessary. Fig 31
- Check chains for any dirt build up and/or corrosion and treat as necessary.
- Check yellow spray jets, and clean if necessary.
- Check Green Gliders – Replace if worn.
- Lubricate the round stainless-steel static legs connected to the white and black feet to allow proper sliding action through the leg setting clamps. Fig. 32

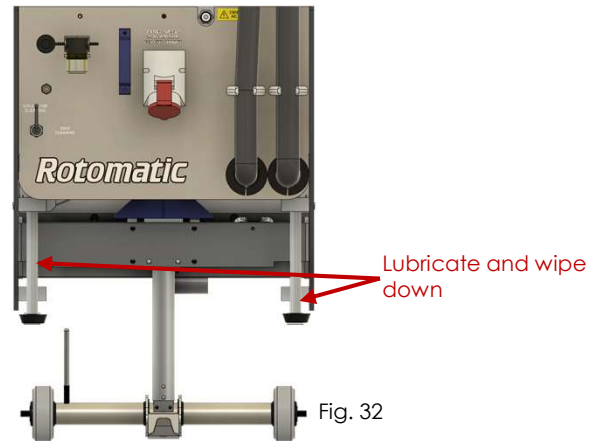


Fig. 32

- Check the black sealing strip is present and correct.

4.5 Maintenance after 100 hours cleaning

- Maintenance work in this case should be carried out as per 30 hours of cleaning.
- Check brush chain sprocket bearings for wear or corrosion.
- Manually clear out the vacuum tray and inspect the self-cleaning spray jets above it.
- Inspect and clean vacuum motor filter. Fig 33
- Check all electrical components.

4. Maintenance

The wearing limit of the chain has been reached when the distance "s" between the 1st and 12th link exceeds 135.0 mm; see Fig. 31 above

With a brand-new chain this dimension "s" should measure 131.4 mm.

These values are valid for all 3 chains.

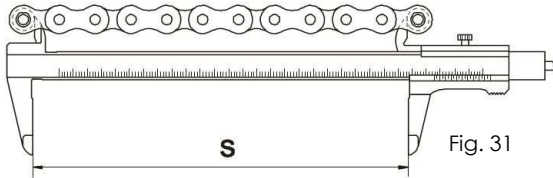
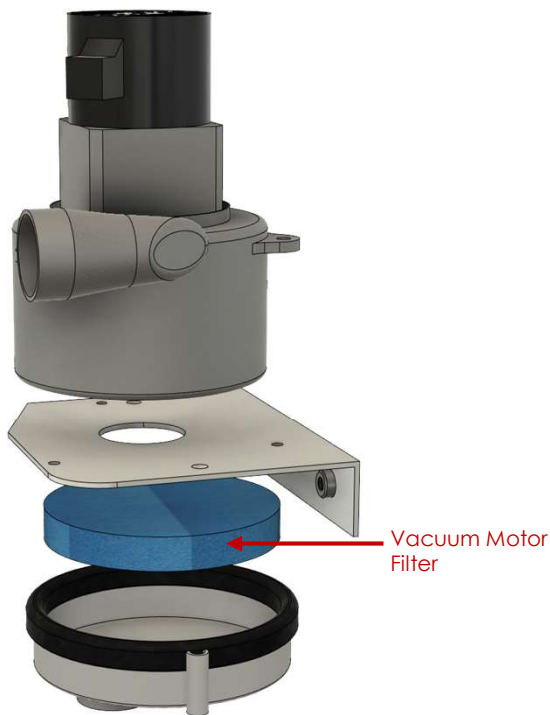


Fig. 33 Vacuum Motor Filter Assembly



4.6 Annual Maintenance

Your machine should be electrical safety tested annually or in accordance with your local laws and/or regulations.

4.6.1 Tightening the chain

The brush chains must be tightened so that the centre of each chain can be raised by hand between the sprockets by approx. 10 mm.

The chain may be tensioned by qualified personnel only.



The brush chains must always have equal tension.

4.6.2 Servicing and Replacing Yellow Jet Nozzles

The 'yellow jets' must be kept clean and replaced whenever they are found to be worn.

There are six (6), in total, inside your Rotomatic.

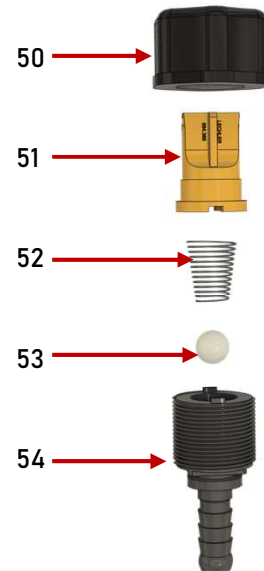
Three (3) of the yellow jets are used for normal escalator cleaning operation and the other 3 are located inside the machine (for self-cleaning mode) and can be serviced and inspected by trained personnel only.



The yellow spray jet nozzles must be aligned in their mounting according to the location numbs! The thumb-nut should only be tightened by hand (Do not use tools to tighten).

Unscrew Thumb screw (50) and remove yellow jet nozzle (51). You can remove the ball and spring (52&53) for cleaning also.

Be sure to reassemble in the correct order!

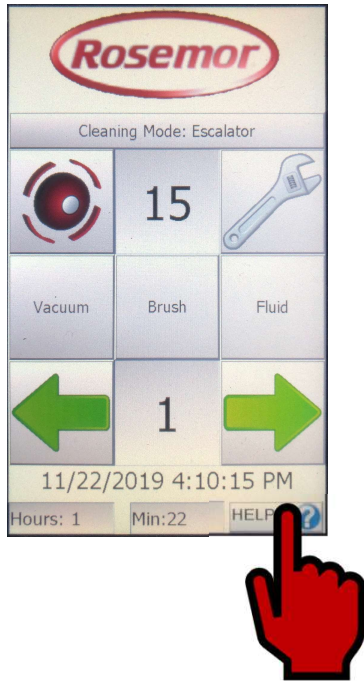


5. Troubleshooting

5.1 Help Menu

There is a whole host of useful operational information stored within the help menu of the touchscreen to aid or remind an operator on how to complete a given task.

To enter the help menu press on the help button in the lower right-hand corner of the touchscreen.



From here you can choose from a list of common questions and how tos on the use of this machine.

Simply press on the subject that suits your need to view the specific help topic.

Pressing the 'next' button will take you to the next page of information for that specific subject.

Pressing the 'back' button will either take you to the previous page of information or back to the main help menu

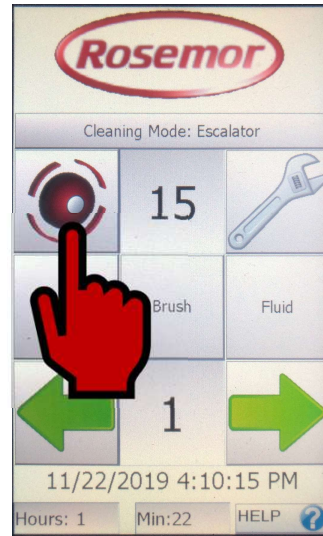
5.2 Alarm Menu

If a fault occurs with your Rotomatic, an alarm might display on the touchscreen.

An alarm can also be displayed when a system message needs to be displayed to the operator, such as a service reminder.

You will see a red icon appear in the top left corner of the touchscreen when an alarm is generated.

Pressing on the 'Alarm' button will take you to a list of active alarms.



From here, you can select any active alarms in the list and then press 'Ack Selected' to clear the alarm or you can press 'Info' for more information on the selected alarm.

Pressing back will take you to the Rotomatic Home Screen once more.

5. Troubleshooting

5.3 Basic Troubleshooting

Below you can find a list of common issues and their respective solutions.

Q: AutoStart Button is not working and/or flashing?

A: Press the 'machine down' button until legs locate inside the machine.

Q: Machine not cleaning properly.

A: Yellow jets are blocked or dirty.

A: Detergent tank is empty.

A: Brushes are worn out.

A: Cleaning program not long enough for level of dirt on the steps.

A: Selector Valve is set to 'Self Clean'

Q: Touchscreen is working but buttons are not responding to being pressed.

A: Keyswitch is in off position – Turn on.

A: Emergency Stop Button is pressed in.

Q: Steps are not dry after cleaning

A: Leg Setting is incorrect and machine is not flat on steps.

A: Machine is not pushed into the steps with enough force.

A: Vac tray is full of dirt and debris.

A: Sealing Strip worn or damaged.

A: Static brush heavily soiled or damaged.

A: Vacuum hose connection is loose.

Q: Streaks or stripes on escalator steps after cleaning.

A: One or more Yellow jet is blocked or clogged.

A: Detergent Filter is Blocked.

A: Brushes worn out.

A: Wastewater tank overfull and residue being ejected from exhaust (step dryer).

Q: Loud noise coming from machine when cleaning?

A: Vacuum motor wet or corroded.

A: Brush chains need tightening.

A: Brush assembly bearings worn out.

Q: Safety Brake is leaving marks or scratching escalator step.

A: Brake pedal is bent out of shape and allowing brake pad to contact step prematurely.



If after following the steps in this troubleshooting section, your fault still exists, please contact your local Rosemor International Service Agent.