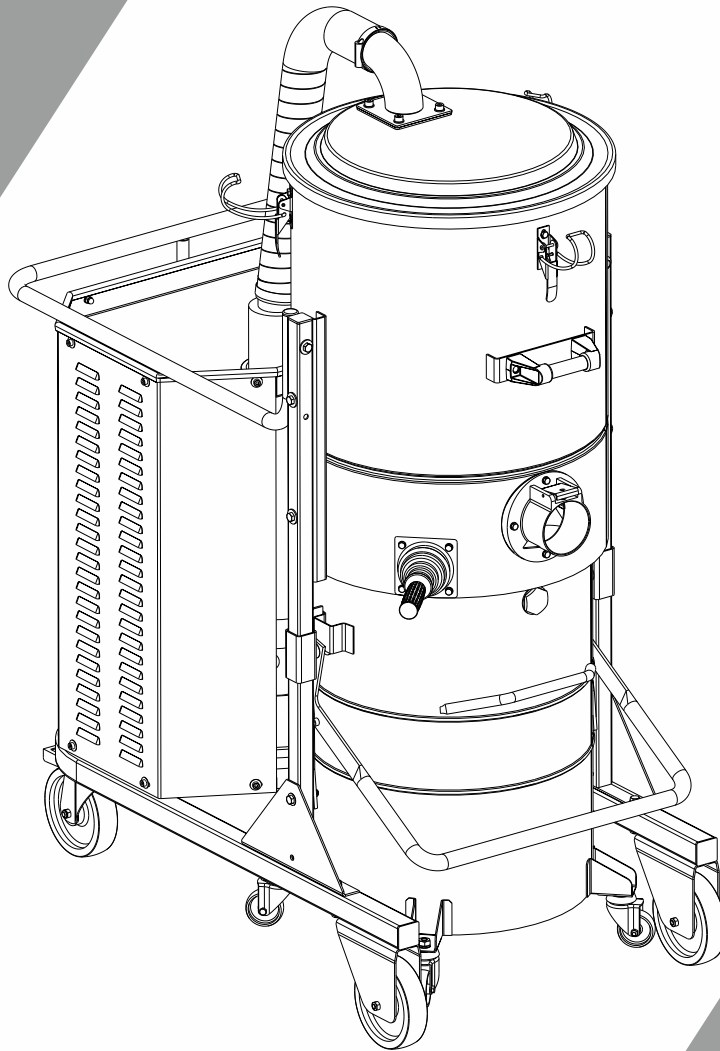
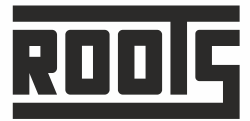


DG - 30 & 70

*Industrial Vacuum Cleaner
Electric*



Owner's Manual

Read this manual completely and understand the instructions before operating the machine.
"English Version"

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Roots Multiclean Ltd (RMCL) is not liable for any legal claims that may arise as a direct or indirect result of the contents of this manual.

Roots Multiclean Ltd.
RKG Industrial Estate,
Coimbatore - 641 006,
India.

Preface

Dear Customer,

We are pleased with your having chosen the **DG 30 & 70** machine for your vacuum cleaning requirements. Backed by our industry expertise that spans across decades, we assure you that the machine comes with our Roots promise of quality, efficiency and performance.

We advise you to carefully read through the instructions prior to the operation of the machine. This manual contains detailed instructions for the proper operation of the machine, along with important information regarding its handling, care, maintenance and service needs.

We are sure that you will find the machine and its performance to your utmost satisfaction. Once again, we thank you for choosing Roots Multiclean Ltd. (RMCL) as a trusted partner for your cleaning requirements and solutions.

Usage, Handling and Modification

Use of the product beyond the specified scope of functioning is deemed improper and the manufacturer cannot be held liable for any damages which may arise due to this.

This machine may be used only by persons who are trained or are familiar with the machine and are aware of the possible hazards involved. The appropriate Accident Prevention Regulations as well as applicable general regulations pertaining to Safety and Health at the work place must be adhered to by the user.

Modifications made to machine without the manufacturer's consent will relieve the manufacturer of responsibility and any possible liability for consequential damage.

Notes on Domestic Warranty

Please refer to the **Limited Warranty card supplied along with the machine** for additional information. This Warranty Policy is applicable only for the product sold within India. If the product requires repair or maintenance work to be performed, please ensure that you get the machine serviced from an authorised service center or dealer of RMCL to ensure that the warranty is not void.

Acceptance of the Machine

On arrival of the machine at the shipping address, please check for any damage that may have occurred as a result of transit. In the event of any such damage, the purchaser is bound by responsibility to send a claim letter to the concerned RMCL branch/dealer with a copy of the invoice. The letter should be sent within 24 hours of receipt of the machine.

The Manual

All information contained is without obligation. RMCL particularly reserves the right to modify any equipment, technical specifications, colours, shapes, materials and the like so as to adapt them to local conditions all without previous announcement and without giving reasons. RMCL may stop manufacturing certain models without prior notice.

The Owner's Manual corresponds to the latest information available for this machine at the time it was printed. Minor deviations resulting from enhancements of the design cannot be entirely represented.

The Owner's Manual is an integral part of the machine and must not be misplaced.

Roots reserves the right to change the product or contents of this manual without prior information.

For Battery, Motors, Engines and other OEM components related kindly refer to their manufacturers manual supplied along with the machine for instructions regarding usage, maintenance and service.

Please note down the serial number of your machine below:

Serial number:

Date of commissioning:

Note:

- We have specified the Model No. in some contents/instructions.
- If Model No. has not been specified, the instruction will be applicable to all models.

DG 30



DG 70



DG 30

DG 30 - Standard & Single Phase Version				
Technical data	Units	DG 30 Standard	DG 30 HEPA	DG 30 Single Phase
Phase	Ø	Three phase	Three phase	Single phase
Voltage	V /Hz	400/50	400/50	230/50
Power	KW	2.2/3.14	2.2/3.14	2.2
Vacuum Pressure	mm of H ₂ O	3000	3000	3000
Air Flow(max)	M3/h	300	300	330
Capacity	L	100	100	100
Filter Surface Area	cm ²	20000	20000	20000
Air load on Filter	M ³ /M ² /h	150	150	165
Filter Category	CAT (BIA) / micron	G	G	G
Protection	IP	55	55	55
Noise Level	dB(A) ± 5	72	72	76
Suction Inlet	Dia mm	80	80	80
Weight	kg	120	121	120
Dimensions (L x W x H)	mm	1140 X 640 X 1540	1140 X 640 X 1540	1140 X 640 X 1540

DG 30 - Stainless Steel Version			
Technical data	Units	DG 30 SS	DG 30 SS HEPA
Phase	Ø	Three phase	Three phase
Voltage	V /Hz	400/50	400/50
Power	KW	2.2/3.14	2.2/3.14
Vacuum Pressure	mm of H ₂ O	3000	3000
Air Flow(max)	M3/h	300	300
Capacity	L	100	100
Filter Surface Area	cm ²	20000	20000
Air load on Filter	M ³ /M ² /h	150	150
Filter Category	CAT (BIA) / micron	G	G
Protection	IP	55	55
Noise Level	dB(A) ± 5	72	72
Suction Inlet	Dia mm	80	80
Weight	kg	120	121
Dimensions (L x W x H)	mm	1140 X 640 X 1540	1140 X 640 X 1540





DG 70

DG 70 - Standard & Grey Version				
Technical data	Units	DG 70 & DG 70 Grey	DG 70 HEPA	DG 70 CONICAL
Phase	Ø	Three phase	Three phase	Three phase
Voltage	V /Hz	400/50	400/50	400/50
Power	KW	5.5/7.85	5.5/7.85	5.5/7.85
Vacuum Pressure	mm of H ₂ O	3000	3000	3000
Air Flow(max)	M3/h	600	600	600
Capacity	L	100	100	100
Filter Surface Area	cm ²	30000	30000	30000
Air load on Filter	M ³ /M ² /h	200	200	200
Filter Category	CAT (BIA) / micron	G	G	G
Protection	IP	55	55	55
Noise Level	dB(A) ± 5	74	74	74
Suction Inlet	Dia mm	80	80	80
Weight	kg	153	156	153
Dimensions (L x W x H)	mm	1140 X 640 X 1540	1140 X 640 X 1665	1140 X 640 X 2060

DG 70 - Stainless Steel Version			
Technical data	Units	DG 70 SS	DG 70 SS HEPA
Phase	Ø	Three phase	Three phase
Voltage	V /Hz	400/50	400/50
Power	KW	5.5/7.85	5.5/7.85
Vacuum Pressure	mm of H ₂ O	3000	3000
Air Flow(max)	M3/h	600	600
Capacity	L	100	100
Filter Surface Area	cm ²	30000	30000
Air load on Filter	M ³ /M ² /h	200	200
Filter Category	CAT (BIA) / micron	G	G
Protection	IP	55	55
Noise Level	dB(A) ± 5	74	74
Suction Inlet	Dia mm	80	80
Weight	kg	153	156
Dimensions (L x W x H)	mm	1140 X 640 X 1540	1140 X 640 X 1665

Safety & Warning Symbols

All paragraphs in this manual referring to you personal safety, the safety of your machine and the environment protection are attributed one of the following warning symbols.

Symbol (Hazardous for)	Description
Safety Provisions (persons and goods) 	Safety provisions in dangerous situation caused by misuse inaccurate adherence of instruction or prescribed work routine.
Caution (the machine) 	Important information on handling the machine in order to maintain operability.
Ecological hazard (the environment) 	Due to use of substances representing an inherent danger to health of environment.
Read Manual 	Prior to first operation, read the manual carefully and strictly comply with the instructions contained.

General Guidelines

- In addition to the information contained in this manual, generally applicable legal provisions for Safety and Prevention of accidents must be adhered to.
- Please go through the manual and the instructions contained herein carefully, even if you possess prior experience in operating similar vacuum cleaning equipment.
- Schedule some time for the careful and thorough perusal of the manual contents.
- The responsibility of all persons in the working area fall upon the operator of the machine.
- No persons, children included, should be allowed within the zone of danger.
- The warning and instruction plates attached to the machine carry important advice on safe operation of the machine.
- Lost or illegible stickers must be replaced at the earliest.
- Prior to operation of the machine, the operator must ensure that the machine and its working implements are in proper and safe operating condition.
- Machines with identified and known defects must not be used.

- It is important that operators and all persons likely to use the machine familiarize themselves with all accessories and controls, as well as their functions, before commencing operation.
- Adherence to the above general instructions will help avoid the operator from having to read the manual while operating the machine.

Safety during machine operation

- The machine is applicable for **DRY** vacuuming only.
- The machine may be used only by the authorized personal.
- The machine may be used for cleaning such surfaces approved by the owner or this authorized representatives.
- When transporting machine, shut down the motor. The operator must use the machine in accordance to its intended fields of application.
- During operation, the operator must take account of local conditions (stairs, obstacles) and of other persons, particularly children.
- Turn off the machine before any passage over dormers.
- The following indications are, by themselves, not enough to fully protect against all the hazards that could arise during machine operation. These will have to be integrated with common sense and the experience of the operator, both of which are crucial factors for preventing accidents.
- Maintenance jobs must always be performed with the power plug detached from the power point.
- The employer must inform and train the user according to the provisions of applicable laws.
- Before using the machine, prepare and train yourself by reading this manual carefully. Use of the machine by untrained and unauthorised persons is forbidden.
- Using the machine to vacuum toxic substances is forbidden unless this has been equipped with special filters required for the specific type of dusts.
- Do not vacuum flammable materials or substances or which could cause explosions (fuels, solvents etc.) To Vacuum such materials, the machine mustbe built with Anti - explosion Motor and Electric system and this must be requested by you explicitly.
- Do not vacuum corrosive substances unless the machine is equipped with containers suitable for this purpose.
- Use of the machine without the supplied filters is not recommended. If the filters are correctly fitted, the machine will not eject any objects.
- If the machine is used to vacuum toxic - harmful substances, the container must be emptied and the filters cleaned using adequate individual protection devices, selected according to the type of substances to be vacuumed.

- The machine casing containing moving parts must not be removed by the user.
- Use the machine cautiously on slopes and ramps. Do not change direction on gradients.
- Make sure the parked machine remains stable by operating the brake wheel.
- During cleaning operations, maintenance jobs or when changing parts, the starter switch must be off and the machine must be disconnected from the power mains by removing the cable from the socket.
- Only skilled persons should carry out repairs.
- Periodically check the main power cable to ensure this is not damaged.
- In the event of the cable being damaged, the machine must not be used.
- In the event of the cable, plugs or couplings being replaced, make sure these are protected against water spray and check mechanical strength.
- Motor brushes and burnt-out fuses must be replaced by Roots or authorized dealers. Always use original spare parts.
- The user is responsible for disposing of vacuumed substances in accordance with applicable laws.
- The machine must not be operated in a corrosive or explosive environment.
- Always make sure the machine is free of all foreign materials such as debris, oil, equipment and other objects that could affect operation and cause injury to persons.
- Avoid using flammable or toxic solvents such as petrol, benzene, ether and alcohol for cleaning.
- Avoid prolonged contact with solvents and inhaling their vapors. Avoid close to open flames or sources of heat.
- Never use the machine without the filter.
- Do not vacuum lit cigarette ends. The filter could be damaged.
- Make sure all the guards and protection devices are in place and that all the safety devices are in place and working properly.
- Do not wear loose or hanging clothing such as ties, scarves or torn garments that could become trapped and be sucked up by the machine. Do not open the vacuum container when the machine is running.
- The manual should always be kept handy for reference so the operating cycle can be checked every time there are doubts. In the event of this manual being lost or damaged ask Roots for a new copy.
- Structural damage and improper alterations or repairs could change the protection capacity of the vacuum cleaner and therefore cancel this certification.
- During maintenance jobs, affix a notice to the appliance indicating "MACHINE BEING SERVICED, DO NOT START".
- Climbing on the cleaner is forbidden.

- Never touch electric wires, switches, button etc with wet hands. Before connecting to the power mains, make sure the power voltage and frequency are those shown on the machine plate.
- Make power connections to a main supply with efficient earth system. In the event of an extension being used, make sure this is in perfect condition, marked CE and that the cross section of the cable is suitable for the vacuum cleaner power input.
- When restoring original working conditions, the appointed personnel should make sure that at the end of the operating procedure, proper machine operation safety conditions are restored, especially the safety devices and the protective guards.
- Only adult persons should use the machine.
- During vacuuming operations, always brake the machine using the special revolving wheel lock.
- To ensure the correct operation of the machine, this must be positioned, protected against atmospheric agents (rain, hail, snow, fog, dusts in suspension etc.) With an environmental running temperature between 5°C to 45°C and relative humidity not above 70%.
- This machine splash-water proof.
- Use of the machine in areas prone to explosion hazards is strictly forbidden.



Turn the motors off to protect the machine against unintended movements, before leaving it unattended.

Never collect explosive fluids, undiluted acids and solvents. This includes e.g. gasoline paint thinners or fuel oil, which when combined with air, may form explosive vapors or mixtures. Acetone, undiluted acids and solvents can be aggressive to the material used for the machine components.



- Do not clean the machine by means of vapour jet or high pressure cleaning equipment.



- Do not allow water to penetrate the electrical parts.

- Do not USE the machine on steps.



- Read the operator's and maintenance manual carefully before using the cleaner or doing any maintenance jobs.
- This machine is not intended for use on public roads and places. Only qualified personnel must perform maintenance and repair work.

Safety Plate and Symbols

- Plates are affixed to the machine showing safety symbols and/or messages.



Always use specific filters for the type of dust or materials to be vacuumed.



Make sure all the safety messages are legible. Clean these with a cloth, soap and water. Do not use solvents, diesel fuel or petrol. Replace the damaged plates with new ones supplied by the manufacturer.



Shake the Filter handle only when the machine is turned off.



Do not breathe in inflammable and/or explosive liquids or powders



- Risk of crushing upper limbs while fitting and locking the material container on the machine.
- Never place hands between the materials container and machine while locking.
- Do not place hands on sides of container near the guide pins while locking.
- Perform the container locking operation by means of the lever located on the side **using both hands**.

Outstanding risks associated with the machine could be:

- Electrical maintenance risks caused by the need to work under power.**
- Only trained personnel should work on the machine with the power supply connected and this must have double earth insulation.
- Risk of improper use in the presence of explosive and flammable substances.**
- The machine must not be used in environments containing substances in the form of liquids that could vaporize at room temperature and flammable dusts and gas.
- Risks of erroneous interpretation of the safety pictograms.**
- Having identified the various outstanding risks, the manufacturer has affixed to the cleaner a number of hazard labels in compliance with regulations relating to the graphic symbols to be used.
- The user must immediately replace any safety plates that become illegible due to wear or damage.

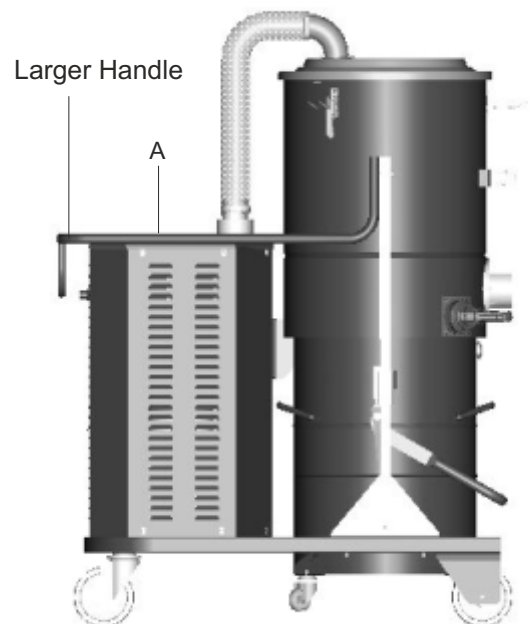


- Removing the safety plates on the machine is strictly forbidden.
- The manufacturer declines all liability in relation to machine safety in the event of failure to comply with the above indications.

Handling of line cords

- During movement, keep the load low for greater stability and safety.
- Open the box from its bottom side and remove it by pulling upwards. After detaching the plastic wraps, you now can follow the below instructions.
- Remove the Accessories Kit which is tied with the machine.
- Take the machine out of the pallet carefully.
- Make sure that the line cords are not damaged by running over, squeezing, dragging, etc.
- The line cords must be checked regularly with regard to damage and aging.
- The machine must not be used unless the line cords are in proper condition.
- Use only original extension cables, with maximum admissible length of 25 m.
- When using or replacing line cords, it is necessary to adhere to as specified by the manufacturer.
- When replacing coupler plugs of line cords or connecting leads, splash-proof protection and mechanical strength must be guaranteed.
- During use, mind the power supply cables and avoid crushing or pulling these.
- Never pull the machine by means of the power cable and the vacuum pipe.

Transport



- The machine can be moved only on flat ground!
- If the machine is moved on inclined grounds, you can risk to lose the control, because of the weight and to damage persons or things.



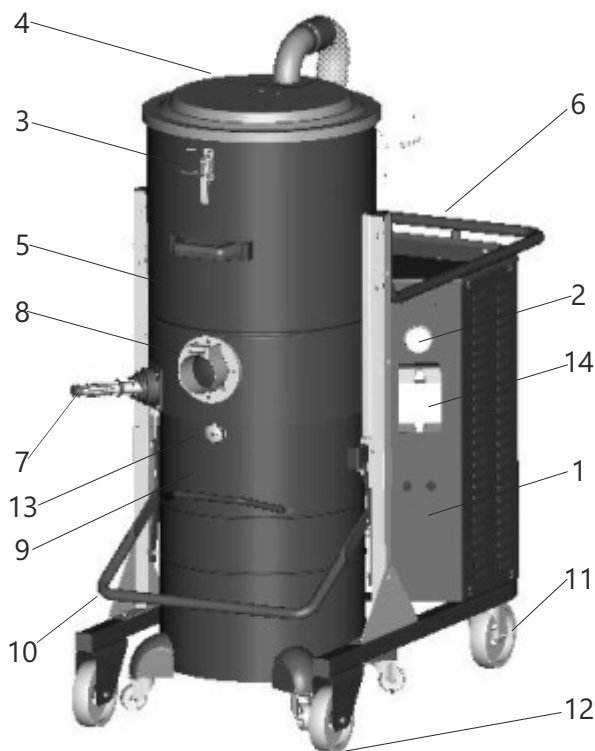
The machine must never be moved using fork-lift trucks or other equipment that lifts it off the floor.

- To move the machine use the **large handle**.
- For greater convenience, the most frequently used accessories can be placed in the special accessory basket (A)

Unpacking & Handling

Remove the fastening straps, open the package and unscrew the J hook and move the machine from the pallet.

Identification of Main Parts



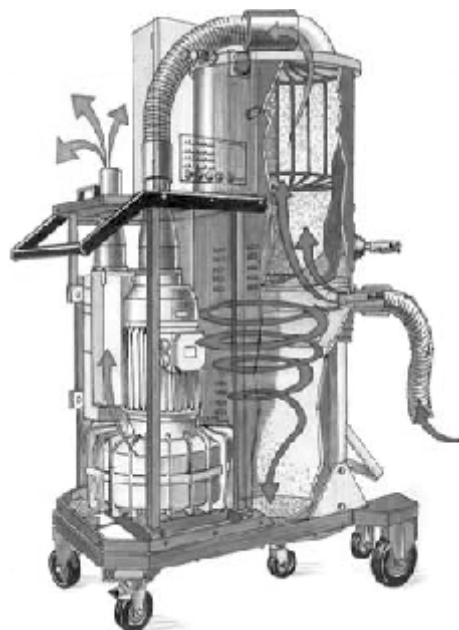
- | | |
|--|--------------------------------|
| 1. Suction unit (inside metal casing) | 9. Waste collection container |
| 2. Vacuum gauge | 10. Detachable container lever |
| 3. Locking clamps | 11. Swivelling castors |
| 4. Cover | 12. Fixed wheels |
| 5. Filter chamber | 13. Waste level indicator |
| 6. Handle bar | 14. On / Off switch |
| 7. Filter shaking lever | |
| 8. Pipe union for the suction hose | |

For Optional Accessories

Refer the spare parts section of this manual.

Operational principle

The material will be sucked through the hose and it will be moved to the suction container. The heavy particles will fall into the collection tank then the fine particles will be filtered by the filter. The blower outlet will dispose the air.



Before Operation



This machine is not suitable for evacuation of dusts, which are explosive or dangerous to health.



Before installing the machine, carefully make a sight check to pinpoint any damage suffered during transport.

- In the event of any component parts being damaged, do not proceed with installation. Notify the manufacturer and reach an agreement on how to proceed.
- The machine already features a suction filter. Fit the accessory required for the type of vacuuming operation on the opposite end of the hose.



Note: The hose with relevant couplings and vacuum accessories are supplied as **STANDARD**. Contact your dealer for information relating to the different types of optional accessories available for this specific vacuum cleaner model. Fit the supplied connector on the pipe union.

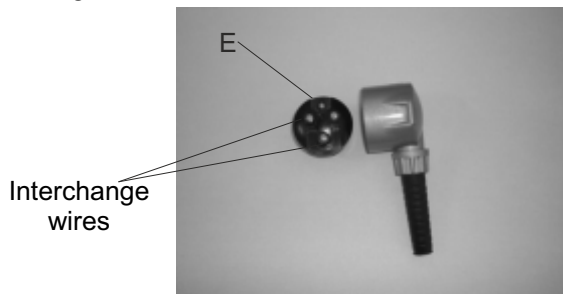


- Make sure the power supply corresponds to the voltage and frequency indicated on the machine nameplate.



Do not fit the plug in the power socket with wet hands

- In the event of an extension being used, make sure this is in perfect condition, in compliance with EC standards and with cable cross section suitable for the power input of the vacuum cleaner.
- When the machine is switched on the inlet has to suck the air. If it blows out air, the machine has to be switched off immediately. The plug shall be detached. The direction of rotation of motor has to be reversed. For this, open the plug and interchange any two live wires, assemble, switch on and again ensure that the inlet sucks air.



The operator and maintenance technicians who perform authorized jobs on the cleaner must be adequately informed about the use of individual protection devices such as shoes, gloves and mask, which make it possible to eliminate all risks associated with the performance of the various jobs.



Before fitting the plug, make sure the power voltage corresponds to the nameplate.

- Make sure the power plug is correctly fitted in the power socket.
- Make sure the flexible hose is properly fitted and locked in the vacuum pipe union.

- Make sure the power cable and any extension used are integral and in perfect condition.
- Block the machine by means of the brake provided.
- Grip one end of the flexible hose complete with selected accessory.
- Press the START button and start vacuuming
- To stop the machine, press the STOP button.
- After finishing work, disconnect the machine from the power socket.

Brake



Before switching the machine back on, make sure the motors have come to a complete halt.

Operating & Indicator Elements: Controls



Vacuum Gauge
(mm of H₂O)

ON Switch

OFF Switch

Releasing and removing the removable container

Stop the machine motors by pressing the relevant STOP buttons.



Disconnect the plug from the power socket.

- Lift the handle in the bottom part of the cleaner to release and remove the container.
- Empty the contents of the container into a special waste disposal container in accordance with laws applicable in the country where the machine is used.
- To prevent having to use a dust protection mask and for greater convenience, before starting vacuuming operations, it is best to fit a nylon bag inside the container and to fasten this in place with the special accessory available on request.

- While performing these operations, it is best to wear a dust protection mask.



- Perform the container release operation by means of the levers located on the sides or on the handle with BOTH HANDS!

- Danger of crushing upper limbs when fitting and locking the container on the machine.

Using the filter shaking system

- This operation must only be performed with the machine switched off once the motor has come to a complete halt.
- The filter shaking system is best operated every time before use and after prolonged operation.



During vacuuming, avoid rolling up or twisting the flexible hose

- On the front of the machine is a vacuum meter indicating the degree of vacuum inside the machine.



- Never use the machine with the filter blocked.
- If the arrow of the vacuum meter stays in the red area even after cleaning the filter, the hose or suction accessory could be blocked. In this case, clean and remove the blockage.

Maintenance jobs must always be performed by skilled technicians, trained to carry out their specific jobs. In the case of this machine, these are:


1. Mechanical maintenance.
2. Electrical maintenance.

Before doing any maintenance job,


- Make sure there are no unauthorized persons in the work area.
- Make sure the necessary tools are on hand and that these are in good condition.
- Make sure that lighting is adequate.
- Make sure the maintenance engineer is equipped with all approved individual protection devices

Before carrying out a maintenance job, the maintenance engineer must:

- Disconnect the plug from the power socket.
- Work done on motors or other electrical component parts must only be performed by a specifically trained electrician, authorized by the safety Manager.
- Always use tools that are in perfect condition and specifically made for the operation to be done. The use of unsuitable tools or tools not in good condition could cause serious damage.
- Before starting any maintenance or cleaning job, always wear adequate protective clothing, eyewear and/or gloves according to the type of job to be done.

 All the described operations must be done with the plug disconnected from the power socket.

- For smooth machine operation, a number of controls are best made periodically.
- Check to see whether the filter is worn or has become too permeable.
- Make sure the sealing gaskets of the motor head base, of the filter-holder ring and of the container are working efficiently.
- The electrical parts (plugs, switches, cables etc.) must not be faulty.
- The screws and nuts must always be tight.
- Make sure the container is not overfull. This should be emptied when the vacuumed material has reached $\frac{3}{4}$ of maximum capacity.
- Check the integrity of the flexible vacuum hose and accessories to be used.
- If the flexible hose is perforated, the power of the cleaner will be reduced and dust and liquids will leak into the environment.

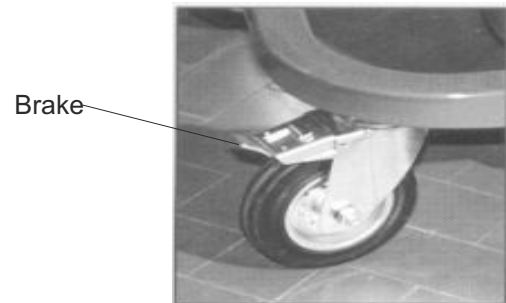
 All maintenance and repair jobs must be performed directly by ROOTS or its authorized dealers!

Replacing the Filters.

- Turn off the machine by pressing the motor **STOP** buttons.
- Disconnect the machine plug from the power socket.



Wear individual Protection Devices.



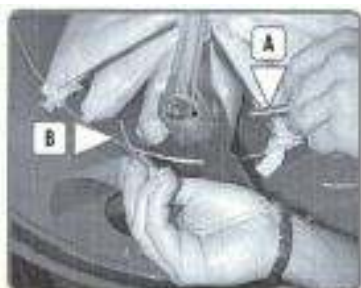
- Block the machine by means of the Brake.



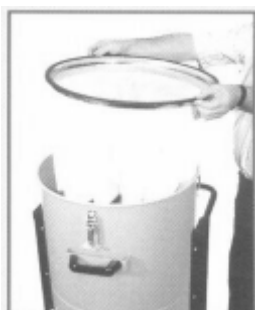
- Simultaneously, lift the two levers that lock the container.
- Remove the container.



- Release the locking clamps that holds the head.
- When resting the head on the support, be careful not to damage the power cable.



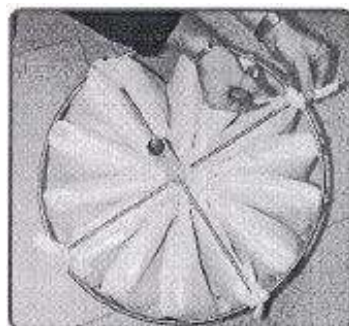
- Remove from underneath the machine the Lock Pin (A) and Cotter Pin (B) that fasten the filter to the shaking lever.



- Lift the filter completely with support.



- Loosen the clamp and remove the support ring with seal.



- Remove the knots and take out the pocket filter. Fit the new filter, put everything back together carefully and fit the top cover back on.



All the material trapped by the filter and the filter itself must be disposed of through authorized channels in the country where the machine is used.



- The container locking operation must be performed by one person only, who must lower the two side levers simultaneously with both hands.

Maintenance Schedule

Maintenance Schedule	Daily	Weekly
Check connection - extension cables and plugs for good condition, discard defective cables immediately.	✓	
Clean the filter manually	✓	
Clean the collection tank	✓	
Check the power supply voltage	✓	
Check the hose for damage	✓	
Check the power supply for phase sequence	✓	
Remove the filter & Clean it with low pressure air.		✓
Check the container gasket for good condition		✓

Troubleshooting

Fault	Cause	Remedy
Machine fails to start	No power	Check the power mains supply. Check the integrity of the plug and power cable.
	Thermal magnetic switch tripped	Reset the thermal magnetic switch.
Dust leaking out	Perforated vacuum pipe	Replace pipe.
	Perforated filter	Replace filter.
	Filter unsuitable for the type of job	Fit a suitable filter for the type of material to be vacuumed.
Machine does not work as intended	Pipe perforated or blocked	Check the pipe and, if necessary replace
	Container full	Empty container
	Filter blocked	Replace filter
	Seals worn	Clean the filter and if necessary change it
	Air leak	Check for any air leaks out of closing fasteners, tighten screws, container or filter chamber.

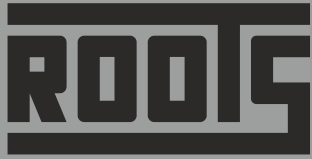
Do's & Don't's

Do's

- Power cable to be checked, if damaged, it should be replaced.
- Check the gasket for its proper seating in the filter assembly.
- Wheels should be cleaned & lubricated for free movement.
- Ensure the machine & power socket has good earth connection.
- If the filter gets clogged, use the filter shaker.
- If DOL Starter gets tripped, check the reason and reset the same.
- Ensure the collection container is locked properly with the filter chamber.
- Check the impeller exhaust pipe to prevent any blockage.

Don'ts

- Do not use the machine, when the collection container gets filled.
- Do not use the machine for vacuuming explosive, hot material and flammable liquids.
- Do not use the machine with bare foot for avoiding risk of electrical shock.
- Do not use the filter shaker, while the machine is operating.
- Do not do any kind of service, except Roots authorized representative.
- Do not use in-genuine spares.
- Do not use the machine, if any abnormal sound is noticed in the suction turbine.
- Do not use the machine, if the filter is damaged.



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