



User Manual

Original instructions

FANG 18 C



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INTRODUCTION



NOTE

The numbers in brackets refer to the components shown in Machine Description chapter.

MANUAL PURPOSE AND CONTENTS

The purpose of this Manual is to provide the operator with all necessary information to use the machine properly, in a safe and autonomous way. It contains information about technical data, safety, operation, storage, maintenance, spare parts and disposal. Before performing any procedure on the machine, the operators and qualified technicians must read this manual carefully. Contact Viper in case of doubts concerning the interpretation of the instructions and for any further information.

TARGET

This manual is intended for operators and technicians qualified to perform the machine maintenance.

The operators must not perform procedures reserved for qualified technicians. Viper will not be answerable for damages coming from the non-observance of this prohibition.

HOW TO KEEP THIS MANUAL

The User Manual must be kept near the machine, inside an adequate case, away from liquids and other substances that can cause damage to it.

DECLARATION OF CONFORMITY

The declaration of conformity, supplied with the machine, certifies the machine conformity with the law in force.



NOTE

Two copies of the original declaration of conformity are provided together with the machine documentation. The CE-declaration is printed in the Quick Start Guide.

IDENTIFICATION DATA

The machine model and serial number are marked on the plate.

This information is useful when requiring machine spare parts. Use the following table to write down the machine identification data.

MACHINE model
MACHINE serial number

OTHER REFERENCE MANUALS

- Service Manual (can be consulted at Viper Service Centers)
- Spare Parts List (see www.vipercleaning.eu)

SPARE PARTS AND MAINTENANCE

All necessary operating, maintenance and repair procedures must be performed out by qualified personnel or by Viper Service Centers. Only original spare parts and accessories must be used. Contact Viper for service or to order spare parts and accessories, specifying the machine model and serial number.

CHANGES AND IMPROVEMENTS

Viper constantly improves its products and reserves the right to make changes and improvements at its discretion without being obliged to apply such benefits to the machines that were previously sold.

Any change and/or addition of accessories must be approved and performed by Viper.

PURPOSE AND INTENDED USE

All automatic cleaning machines are exclusively intended for the wet cleaning of water-resistant floor coverings in building interiors. The automatic cleaning machines cannot be used for fitted carpet and carpet cleaning.

This appliance is suitable for commercial use, for example in hotels, schools, hospitals, factories, shops, offices and rental businesses.

Any other use is considered as improper use. The manufacturer accepts no liability for any damage resulting from such use. The risk for such use is borne solely by the user.

Proper use also includes proper operation, servicing and repairs as specified by the manufacturer.

Changes made to the automatic machines by the users themselves rule out the liability of the manufacturer for any resultant damage.

Floor coverings are to be checked with regard to the suitability of this cleaning method before the use of the machine!

Note the surface pressure in the case of point-elastic floors, e.g. in gymnasiums!

The manufacturer accepts no liability for damage to the machine and the floor covering to be cleaned which is caused by the use of the wrong brushes and cleaning agents.

CONVENTIONS

Forward, backward, front, rear, left or right and up are intended with reference to the operator's position, that is to say in working position with the hands on the handle.

UNPACKING/DELIVERY

To unpack the machine, carefully follow the instructions on the packing.

When the machine is delivered, check that the packing and the machine were not damaged during transportation. In case of visible damages, keep the packing and have it checked by the carrier that delivered it. Call the carrier immediately to fill in a damage claim.

Check contents of package to ensure that the following items are included:

- machine
- squeegee assembly
- brush driver (and pad driver)

SAFETY

The following symbols indicate potentially dangerous situations. Always read this information carefully and take all necessary precautions to safeguard people and property.

The operator's cooperation is essential in order to prevent injury. No accident prevention program is effective without the total cooperation of the person responsible for the machine operation. Most of the accidents that may occur in a factory, while working or moving around, are caused by failure to comply with the simplest rules for exercising prudence. A careful and prudent operator is the best guarantee against accidents and is essential for successful completion of any prevention program.

SYMBOLS USED TO MARK INSTRUCTIONS

	DANGER! Danger that leads directly to serious or irreversible injuries, or even death.
	WARNING! Danger that can lead to serious injuries or even death.
	CAUTION! Danger that can lead to minor injuries and damage.
	NOTE Indicates a remark related to important or useful functions.

GENERAL INSTRUCTIONS

Specific warnings and cautions to inform about potential damages to people and machine are shown below.

The appliance must

- only be used by persons, who have been instructed in its correct usage and explicitly commissioned with the task of operating it
- only be operated under supervision
- not be used by children

The workplace is behind the cleaner.

Do not use any unsafe work techniques.

Always guide the cleaner with both hands on the handle.

When the cleaner is stationary, switch off the brush unit immediately to prevent damage to the floor covering.

Switch off the appliance and disconnect the mains plug in the following situations:

- Prior to cleaning and servicing
- Prior to replacing components
- Prior to changing over the appliance

Use of the cleaner is subject to current national regulations. Besides the operating instructions and binding accident prevention regulations valid in the country of use, observe recognized regulations for safe and proper work.

TRANSPORT

When transporting the cleaner in elevators

- observe current safety regulations, in particular with regard to carrying capacity.

OPERATION

Take all necessary precautions to prevent hair, jewels and loose clothes from being caught by the machine moving parts.

Before using the machine, close all doors and/or covers.

The machine working temperature must be between 0°C and +40°C.

The humidity must be between 30% and 95%.

Do not use the machine as a means of transport.

In case of fire, use a powder fire extinguisher, not a water one.

Do not tamper with the machine safety guards and follow the ordinary maintenance instructions scrupulously.

Do not allow any object to enter into the openings. Do not use the machine if the openings are clogged. Always keep the openings free from dust, hairs and any other foreign material which could reduce the air flow.

Do not remove or modify the plates affixed to the machine.

If the machine is used according to the instructions, the vibrations are not dangerous. The machine vibration level is less than 2.5 m/s² (98/37/EEC-EN 1033/1995).

The Hand/arm vibration levels are well below 2,5 m/s² (measured according to ISO 5349), which is the limit for an 8 hour continuous working period.

This machine must not be used on roads or public streets.

Viper will not pay any claims regarding using aggressive detergents in Viper machines.

Pay attention during machine transportation when temperature is below freezing point. The water in the tank or in the hoses could freeze and seriously damage the machine.

MAINTENANCE

To ensure machine proper and safe operation, the scheduled maintenance shown in the relevant chapter of this manual, must be performed by the authorised personnel or by Viper Service Center.

Carefully read all the instructions before performing any maintenance/repair procedure.

Do not work under the lifted machine without supporting it with safety stands.

Do not wash the machine with direct or pressurised water jets, or with corrosive substances.

GUARANTEE

Our general conditions of business are applicable with regard to the guarantee.

Unauthorised modifications to the appliance, the use of incorrect brushes and detergents in addition to using the appliance in a way other than for the intended purpose exempt the manufacturer from any liability for the resulting damage.

TESTS AND APPROVALS

Electrical tests must be performed in accordance with the provisions of safety regulations (BGV A3) and to DIN VDE 0701 Part 1 and Part 3. In accordance with DIN VDE 0702 these tests must be performed at regular intervals and after repairs or modifications.

ELECTRICAL COMPONENTS



DANGER

Electric shock due to faulty mains connecting lead.

Touching a faulty mains connecting lead can result in serious or even fatal injuries.

- ▶ Do not damage the mains power lead (e.g. by driving over it, pulling or crushing it).
- ▶ Regularly check whether the power cord is damaged or shows signs of ageing.
- ▶ Have the faulty mains connecting lead replaced by your Viper service representative or a qualified electrician prior to using the appliance again.



CAUTION

Electrical components.

Damage due to unsuitable mains voltage.

The appliance can be damaged as a result of being connected to an unsuitable mains voltage.

- ▶ Ensure that the voltage shown on the rating plate corresponds to the voltage of the local mains power supply.

**CAUTION**

Electrical connection.

- ▶ Connect the appliance via a residual current circuit breaker.
- ▶ Arrange the electrical parts (sockets, plugs and couplings) and lay down the extension lead so that the protection class is maintained.
- ▶ Connectors and couplings of power supply cords and extension leads must be watertight.

STAIRS AND GRADIENTS**CAUTION**

Risk of tipping and slipping on stairs and gradients.

When negotiating stairs and gradients, there is a risk of personal injuries and damage to property.

- ▶ Do not negotiate steps.
- ▶ Only use the appliance on level surfaces with a maximum gradient of 2 %.

FLOOR COVERINGS**CAUTION**

Damage to sensitive floor coverings.

Particularly sensitive floor coverings can be damaged by cleaning.

- ▶ Before using the cleaner, check whether floor coverings are suitable for this cleaning technique.
- ▶ Beware of area compression in point-elastic floors, e.g. in gym halls.
- ▶ Only use cleaning agents approved by Viper.

MATERIALS HAZARDOUS TO HEALTH**WARNING**

Materials hazardous to health in floor coverings.

Floor coverings can contain materials that are hazardous to health, which dissolve during cleaning.

- ▶ Do not clean floor coverings from which dusts or liquids that are hazardous to health can dissolve.

RISK OF EXPLOSION**WARNING**

Flammable and explosive materials.

Risk of explosion in explosive atmosphere or areas where flammable and explosive materials are stored.

- ▶ Do not operate the machine near dangerous, flammable and/or explosive powders, liquids or vapours.

SPARE PARTS AND ACCESSORIES**CAUTION**

Non-genuine components and unsuitable detergents.

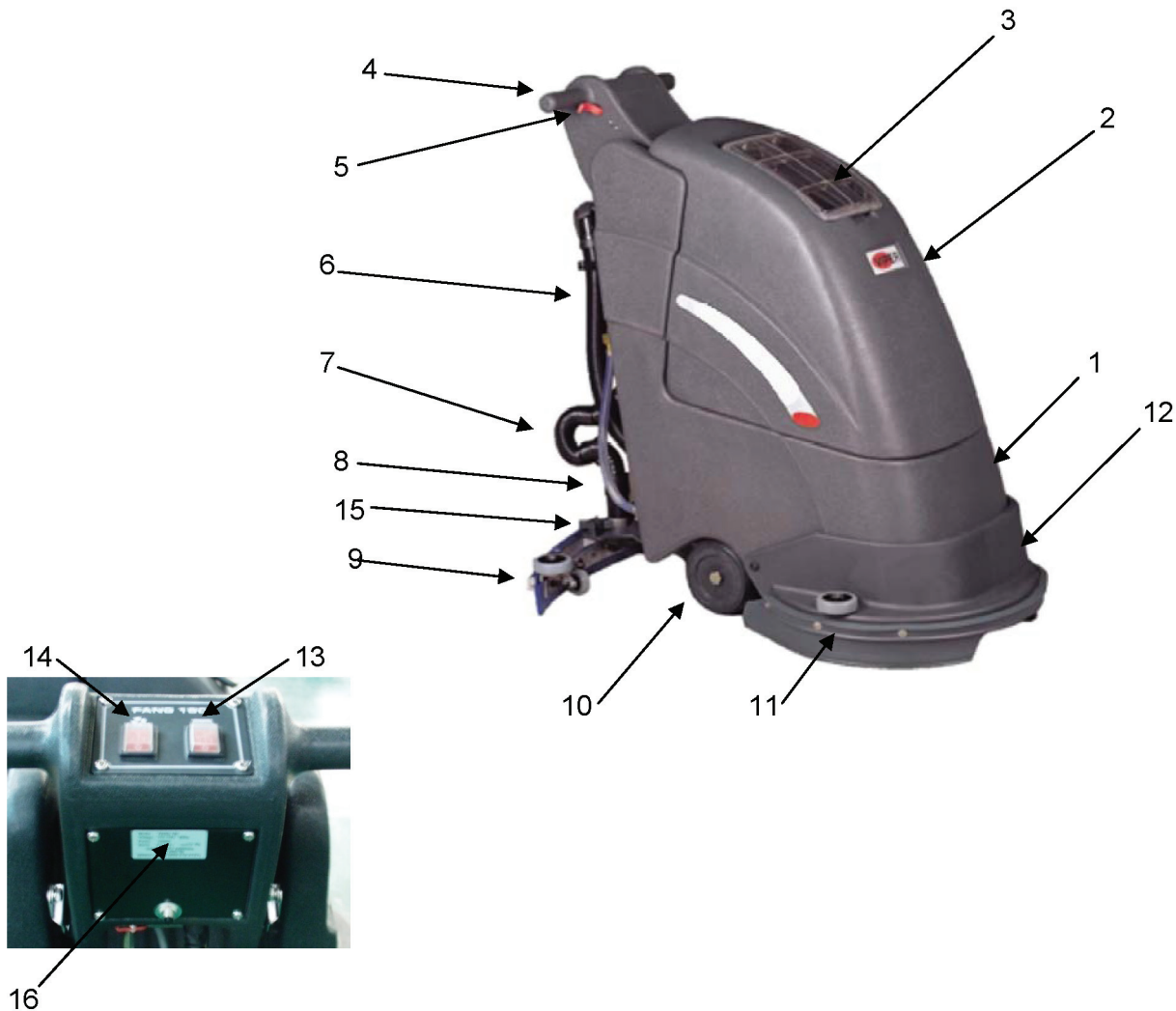
The use of non-genuine parts and unsuitable detergents can impair the safety of the appliance and lead to damage.

- ▶ Only use spare parts and accessories from Viper.
- ▶ Only use the accessories and detergents supplied with the appliance or those specified in the operating instructions.

MACHINE DESCRIPTION

MACHINE STRUCTURE

- | | |
|-------------------|--------------------------|
| (1) Solution Tank | (9) Squeegee Assembly |
| (2) Recovery Tank | (10) Transport Wheels |
| (3) Clear Cover | (11) Bumper |
| (4) Control Box | (12) Skirt |
| (5) Switch lever | (13) Brush Motor Switch |
| (6) Drain Hose | (14) Vacuum Motor Switch |
| (7) Vacuum Hose | (15) Knob |
| (8) Water Hose | (16) Plate |



ACCESSORIES/OPTIONS

In addition to the standard components, the machine can be equipped with the following accessories/options, according to the machine specific use:

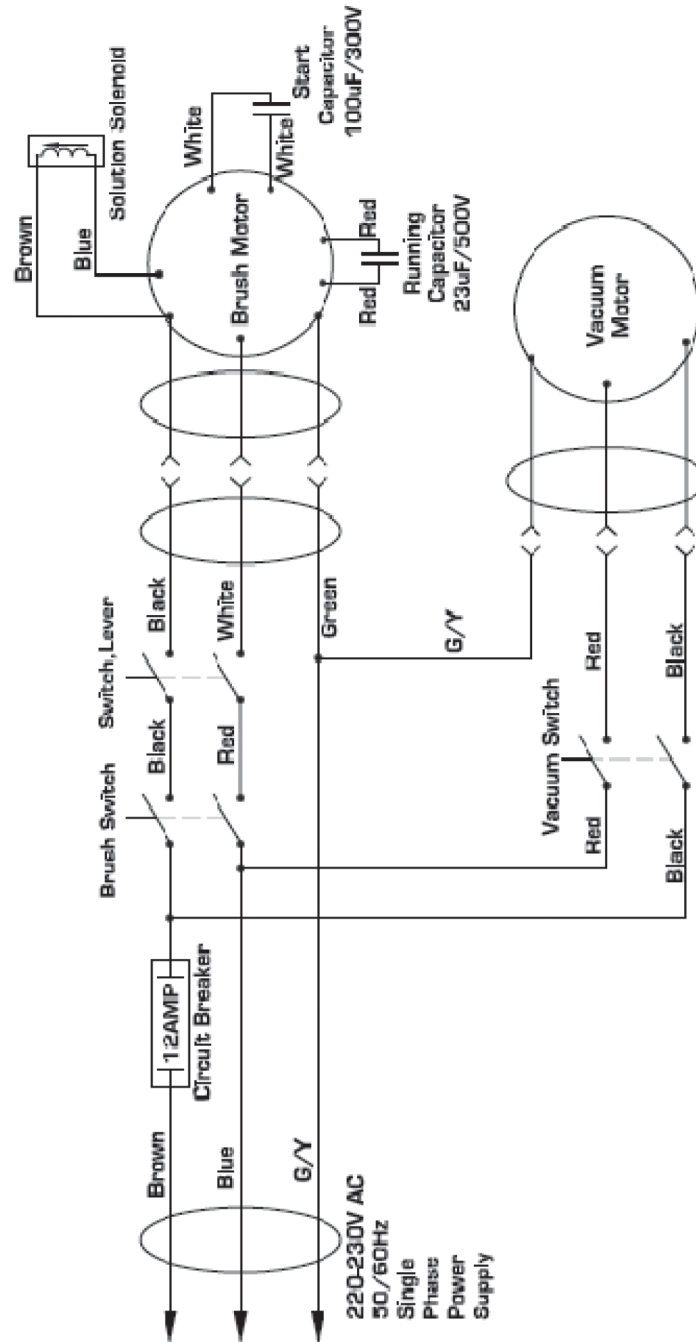
- Brush
- Pad driver

For further information concerning the optional accessories, contact an authorised retailer.

TECHNICAL DATA

Model		FANG 18C-EU
Solution Tank Capacity	l	30
Recovery Tank	l	41
Cleaning Path	in (cm)	18 (45)
Pad Pressure	kg	30
Squeegee Width	in (cm)	28 (75)
Coverage Rate (max)	m ² /h	1100
Drive System		Pad assist
Watt	W	1400
Voltage	V	220-230
Frequency	Hz	50-60
Vacuum Motor		2-stage
Waterlift	cm	158.1
Power Cable	m	25
Power consumption.	A	8.8
Max Gradient	%	2
Noise Level	dB(A)	70
Protection Level		IPX 4 Class I
Weight (machine only)	kg	65.5
Dimensions L x W x H	cm	110 x 54.5 x 97

WIRING DIAGRAM



Single Phase Power Supply	<i>insert translation</i>	Solution Solenoid	<i>insert translation</i>
Brush switch	<i>insert translation</i>	Brown	<i>insert translation</i>
Switch, Lever	<i>insert translation</i>	Blue	<i>insert translation</i>
Circuit Breaker	<i>insert translation</i>	G/Y	<i>insert translation</i>
Vacuum Switch	<i>insert translation</i>	Black	<i>insert translation</i>
Brush Motor	<i>insert translation</i>	Green	<i>insert translation</i>
Vacuum Motor	<i>insert translation</i>	Red	<i>insert translation</i>
Running Capacitor	<i>insert translation</i>	White	<i>insert translation</i>
Start Capacitor	<i>insert translation</i>		

OPERATION

BEFORE STARTING THE MACHINE

SCRUBBER SETUP

PRE-OPERATION CHECKS

- › Sweep the outside of the machine.
- › Ensure that the voltage shown on the rating plate corresponds to the voltage of the local mains power supply.
- › Check that squeegee is properly installed.
- › Check that brush / pad is properly installed.
- › Bumper doesn't touch the floor directly. The gap between the bumper and the floor surface can be adjusted by adjusting sliding plate.
- › The forward speed of machine can be controlled by turning the butterfly nut. Turn the nut clockwise to speed up machine. Or turn the nut anticlockwise to slow down machine.
- › Make sure the working surface can support the machine weight, the gradient of the floor can't exceed the limit that machine allow.

INSTALLING PAD DRIVER OR BRUSH

- › Unplug machine.
- › Tilt the machine backwards, line up the drive pulley hub with the hole of brush or pad driver, make sure the three blocks are fitted into the three slots of drive pulley.
- › If a pad driver is being used, the appropriate pad should be attached to the pad driver first.
- › Plug power cord into a grounded outlet, switch on the brush motor and then pull the operating triggers gently to mount the pad driver or brush automatically.



INSTALLING THE SQUEEGEE

- › Loosen the two knobs on the squeegee and slide the squeegee into the slots at the rear of the squeegee bracket (the wheels on the squeegee point to the back).
- › Tighten the knobs securely.

FILLING THE SOLUTION TANK

- › The fill port is located at the rear of machine.
- › Fill solution tank with water (water temperature should not exceed 50°C). The clear tube in the back left of the machine has gallon markers to help determine the water level in the solution tank.



WARNING!

Risk of explosion.

Do not put any flammable materials into solution tank.

- › Only use cleaning agents approved by Viper.
- › Contact your janitorial supply distributor for recommendations on proper chemicals.

BASIC OPERATION

- › Adjust control housing to a comfortable operating height by squeezing together the two thumb levers directly underneath the housing.
- › Lower squeegee assembly to the floor.
- › Turn brush motor switch to "on" position.
- › Turn vacuum motor switch to "on" position.
- › Rotate the ball valve of solution tank to horizontal position. Solution will not begin to flow until the operating triggers are pulled.
- › To begin scrubbing, pull on one or both of the red operating triggers, when these triggers are pulled, the brush will begin to spin and the solution will begin to flow.
- › Begin scrubbing by moving the machine forward. Adjust solution flow by adjusting the position of ball valve knob.

OPERATING HINTS

- › Occasionally look through the clear recovery tank lid to see if there is any foam build-up. If excessive foam is found, add defoamer to the recovery tank.

- ▶ Occasionally view the clear tube at the back left of the machine to check the amount of cleaning solution that is left in the machine.
- ▶ If the squeegee assembly leaves streaks on the floor, raise the squeegee off the floor and wipe the blades down with a damp cloth.
- ▶ When the solution tank runs empty, turn off the brush switch and ball valve of solution tank. Keep the squeegee down and continue to vacuum until all the dirty water is picked up.

**CAUTION!**

Damage of the vacuum motor.

Foam must not enter the float shut-off screen, or damage can occur to the vacuum motor. Foam will not activate the machine's float shut-off device.

**CAUTION!**

Risk of cuts.

Do not use your fingers to wipe or remove debris from the blades, as injury may occur.

**CAUTION!**

Damage to the floor.

Do not keep the machine in the same position with the pad / brush spinning, or you could cause damage to the floor.

DRAINING TANKS

DRAINING SOLUTION TANK

**NOTE**

Any time scrubbing operation is completed, the solution tank should be drained and cleaned.

- ▶ Pull down on the clear tube (back left of the machine) to remove it from the hose barb. This will allow the solution to flow freely into a bucket or floor drain.
- ▶ Rinse the solution tank with clean water after every use. This will help prevent chemical buildup and clogging of the solution lines.
- ▶ Once tank is rinsed, flushed and drained, reconnect the clear tube to the hose barb. Be sure the tube is pushed all the way up on the hose barb.

DRAINING RECOVERY TANK

**CAUTION!**

Machine damage.

If the recovery tank is not drained when the solution tank has been refilled, foam or water may enter the float shut-off mechanism and cause damage to the vacuum motor.

**NOTE**

If you are storing the machine for any period of time, always leave the clear recovery tank lid off the tank so the tank can dry completely and smell fresh. Any time scrubbing is completed, or when refilling solution tank, the recovery tank should be drained and cleaned.

- ▶ Remove the drain hose from the holder, and place the drain hose over the floor drain. Twist off the drain hose plug to begin the draining process.
- ▶ Clean the recovery tank after every use. Use a fresh water hose to rinse out the recovery tank. Be careful not to spray water into the float shut-off mechanism.

MAINTENANCE

To keep the machine performing well for many years, please follow the following maintenance procedures.

**CAUTION!**

Always confirm that the machine is unplugged prior to performing any maintenance or repairs.

DAILY MAINTENANCE

- ▶ Remove pad driver / brush and clean with approved cleaner.
- ▶ Drain recovery and solution tanks completely and rinse out with clean water. Visually check the recovery tank for debris and clean out as necessary.
- ▶ Raise squeegee assembly off floor and wipe it down with a damp towel. Be sure to store the squeegee in the up position.
- ▶ Remove the float shut-off assembly and rinse it out with clean water.
- ▶ Clean machine with an approved cleaner and a damp towel. Don't spray water to clean the outside of machine to avoid damage to motor and wiring.
- ▶ Unplug vacuum motor from power source and hose cuff & remove the drain hose from the holder prior to removing the recovery tank when performing maintenance.

VACUUM MOTOR MAINTENANCE

- ▶ Contact your local Viper Service for any motor maintenance.

- ▶ Check the vacuum motor brushes every 250 hours, Replace the brushes when they are worn to a length of 10mm or less.

SQUEEGEE BLADE CHECK AND REPLACEMENT

- ▶ Clean the squeegee (Fig. 4) as shown in the previous paragraph.
- ▶ Check that the edge (M, Fig. 4) of the front blade (D) and the edge (N) of the rear blade (E) lay down on the same level, along their length; otherwise adjust their height according to the following procedure:
 - Open the Latch (A) to adjust the rear blade (E); then engage the Latch.
 - Loosen the Knob (G) and adjust the front blade (D); then tighten the Knob (G).
- ▶ Check the front blade (D) and rear blade (E) for integrity, cuts and tears; if necessary replace them as shown below. Check that the front corner (N) of the rear blade is not worn; otherwise, overturn the blade to replace the worn corner with an integral one. If the other corners are worn too, replace the blade according to the following procedure:
 - Loosen the Knob (G), disengage the retainers (H), then replace/overturn the front blade (D). Install the blade in the reverse order of removal.
 - Open the Latch(A) and remove the retaining strip (B), then replace the rear blade (E). Install the blade in the reverse order of removal.
 - After the blade replacement (or overturning), adjust the height as shown in the previous step.
- ▶ Connect the vacuum hose (7) to the Squeegee (9).
- ▶ Install the squeegee (9) and tighten the Knob (C).

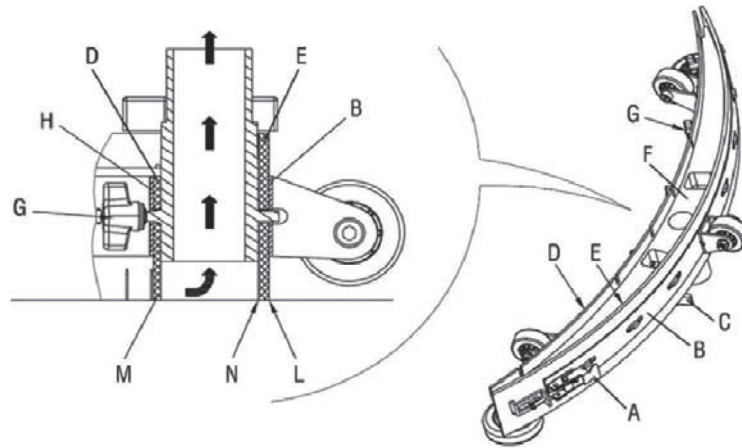


Fig. 4

BRUSH/PAD CLEANING



CAUTION!

Risk of cuts.

It is advisable to wear protective gloves when cleaning the brush/pad because there may be sharp debris.

- ▶ Remove the brush/pad from the machine, as shown in Use chapter.
- ▶ Clean and wash the brush/pad with water and detergent.
- ▶ Check the brush bristles for integrity and wear; if necessary, replace the brush.
- ▶ Check the pad for wear; if necessary, replace the pad.

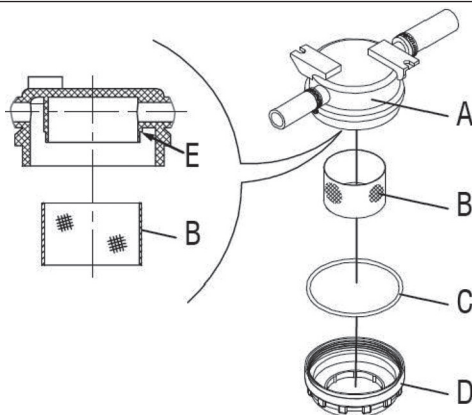
SOLUTION/CLEAN WATER FILTER CLEANING

- ▶ Drive the machine on a level floor.
- ▶ Confirm the machine is unplugged.
- ▶ Remove the transparent cover (D), then remove the filter strainer (B). Clean and install them on the support (A).



NOTE

The filter strainer (B) must be correctly positioned on the housing (E) of the support (A).



TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
No Power	Wiring not connected correctly or bad wiring	Check the wiring or contact Viper Service
	Bad brush motor	Contact Viper Service
	Carbon brushes worn out	Contact Viper Service
Vacuum motor does not run	Wiring not connected correctly or bad wiring	Check the wiring or contact Viper Service
	Bad vacuum motor	Contact Viper Service
	Carbon brushes worn out	Contact Viper Service
Little or no solution flow	Bad ball valve	Contact Viper Service
	Bad solution valve	Contact Viper Service
	Ball valve position in need of adjustment	When ball valve is in horizontal position. The amount of solution flow is maximum
Poor water pick up	Squeegee clogged	Clean debris off squeegee with damp towel
	Squeegee blades worn	Install new squeegee blades
	Squeegee not mounted correctly	Confirm that the squeegee assembly is securely fastened to the machine and not loose fitting
	Vacuum hoses have a hole or are loose	Check hose connections and make sure they are firm. Replace hose if damaged
	Vacuum hose may be clogged	Check hose for debris and remove any clog
	Drain hose stopper is loose	Tighten drain plug
	Vacuum motor is loose	Tighten vacuum motor mounting screws
Do not over tighten or damage will occur.	Recovery tank lid is loose	Confirm the clear recovery tank lid is securely in place
	Recovery tank is full	Drain recovery tank
	Float shut off is clogged	Remove float shut off from inside recovery tank and remove any debris

STORAGE



CAUTION!

If you are storing the machine in an area which can freeze, be sure both tanks and the solution plumbing are empty of all water and dry!

- ▶ Switch off the appliance.
- ▶ Pull the mains plug out of the socket.
- ▶ Store the appliance in a dry place, protected from frost.
- ▶ The machine storage temperature must be between 0°C and +40°C. Always store the machine indoors.

- ▶ Always take off the pad driver / brush
- ▶ Always store the machine with the squeegee assembly raised off the floor.
- ▶ If storing in an area which may reach freezing temperatures, be sure to drain all fluids from the machine prior to storage. Any damage caused by freezing temperatures will not be covered by the warranty.
- ▶ Drain the recovery tank and remove the clear on the top of the recovery tank so that it can “breathe” during storage.
- ▶ Drain the solution tank of all fluid.

RECYCLING THE CLEANER

Make the old cleaner unusable immediately:

- ▶ Unplug the cleaner.
- ▶ Cut the power cord.
- ▶ Do not discard of electrical appliances with household waste.



As specified in European Directive 2002/96/EC on old electrical and electronic appliances, used electrical goods must be collected separately and recycled ecologically. Contact your local authorities or your nearest dealer for further information.

Company information:
www.vipercleaning.eu
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