

USE AND MAINTENANCE MANUAL



VISPA 35E

ED. 09-2010

EN

ORIGINAL
INSTRUCTIONS
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Ver. AB



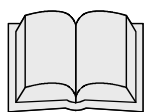
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Symbols used in the manual



Open book symbol with an "i"
Indicates the need to consult the instruction manual



Open book symbol
Used to tell the operator to read the manual before using the machine



Warning symbol
Carefully read the sections marked with this symbol, for the safety of the operator and the machine



Warning symbol
Indicates danger of gas fumes and the leakage of corrosive liquids



Disposal symbol
Carefully read the sections marked with this symbol for the disposal of the machine



CONTENTS

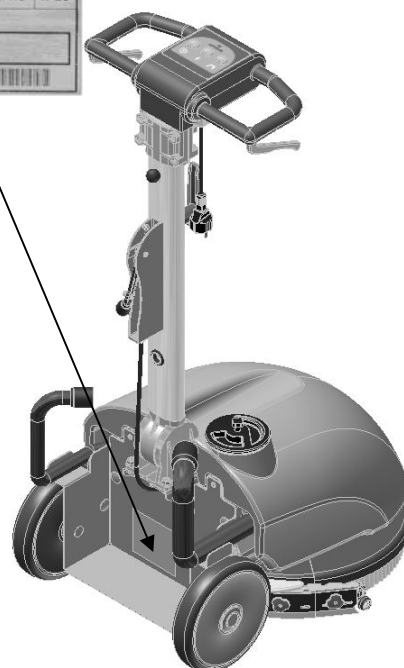
ON CONSIGNMENT OF THE MACHINE	4
SERIAL NUMBER PLATE	4
INTRODUCTION	4
INTENDED USE.....	4
TECHNICAL DESCRIPTION	5
SYMBOLS USED ON THE MACHINE.....	6
GENERAL SAFETY REGULATIONS.....	7
MACHINE PREPARATION	8
1. HANDLING THE PACKAGED MACHINE.....	8
2. HOW TO UNPACK THE MACHINE.....	8
3. HANDLING AND TRANSPORTATION OF THE UNPACKAGED MACHINE.....	8
4. CONNECTING THE MACHINE	8
5. INSTRUMENT PANEL COMPONENTS	9
6. FIXING THE HANDLEBARS.....	9
7. SOLUTION TANK	9
8. DETERGENT SOLUTION.....	9
9. RECOVERY TANK.....	10
ASSEMBLING THE BRUSH.....	10
WORK.....	11
1.PREPARING TO WORK	11
2.OVERFLOW DEVICE	11
3.FORWARD MOVEMENTS	12
AT THE END OF THE WORK.....	13
DAILY MAINTENANCE	14
1. CLEANING THE RECOVERY TANK	14
2. EMPTYING OF THE SOLUTION TANK	14
2. CLEANING THE SQUEEGEE.....	15
3. REPLACING THE SQUEEGEE RUBBERS.....	15
4. DISASSEMBLING THE BRUSH	16
PERIODIC MAINTENANCE	17
1.CLEANING THE SQUEEGEE TUBE	17
2.CLEANING THE SOLUTION TANK AND FILTER	17
TROUBLESHOOTING	18
1.ELECTRICAL SYSTEM SAFETY	18
2.INSUFFICIENT WATER ON THE BRUSHES.....	18
3.THE MACHINE DOES NOT CLEAN WELL.....	18
4.THE SQUEEGEE DOES NOT DRY PERFECTLY	18
5.EXCESSIVE FOAM PRODUCTION.....	18
CHOOSING AND USING THE BRUSHES.....	19
SUGGESTED POWER CABLE EXTENSION.....	19
MACHINE DISPOSAL	20
EC DECLARATION OF CONFORMITY	21



On consignment of the machine

When the machine is delivered to the customer, an immediate check must be performed to ensure all the material mentioned in the shipping documents has been received, and also to check the machine has not been damaged during transportation. If this is the case, the carrier must ascertain the extent of the damage at once, informing our customer service office. It is only by prompt action of this type that the missing material can be obtained, and compensation for damage successfully claimed.

Serial number plate



Introduction

VISPA 35E is a floor scrubbing machine which, by means of the mechanical action of the rotating brush and the chemical action of a water/detergent solution, can clean any type of flooring. As it advances, it also collects any removed dirt as well as the detergent solution not absorbed by the floor.

The machine must only be used for this purpose. Even the best machines will only work well if used correctly and kept in good working order. We therefore suggest you read this instruction booklet carefully and read it again whenever difficulties arise while using the machine. If necessary, remember that our customer assistance service (organised in collaboration with our dealers) is always available for advice or direct intervention.

Intended use

The scrubbing machine is designed exclusively for the professional cleaning of surfaces and floors in industrial, commercial and public environments. The machine is only suitable for use in closed - or at least covered - locations.

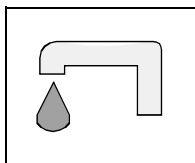
The machine is not suitable for use in the rain, or under water jets. It is **FORBIDDEN** to use the machine for picking up dangerous dusts or inflammable liquids in places with a potentially explosive atmosphere. In addition, it is not suitable as a means of transport for people or objects.



TECHNICAL DESCRIPTION	UM	Vispa 35E
Rated power	W	540
Working width	mm	350
Width of rear squeegee	mm	440
Work capacity	m ² /h	1050
Water consumption	g/m ²	-
Brushes (diameter or length)	Ø mm	350
Brush rotations	rpm	140
Pressure on the brushes	Kg	17.7
Brush motor – Rated voltage	V/Hz	230/50
Brush motor – Max. absorbed power	W	320
Type of advance		semi-aut.
Forward movement speed	km/h	3
Maximum gradient		2%
Suction motor – Rated voltage	V/Hz	230/50
Suction motor – Max. absorbed power	W	220
Suction vacuum	mbar	722
Solution tank PE	l	7.5
Recovery tank PE	l	9.3
Weight of empty machine (including brush and tanks)	Kg	35.2
Weight of empty machine (without brush and recovery tank)	Kg	31.1
Gross weight of the machine ready for use	kg	42.7
Dimensions of the open machine (Length / Height / Width)	mm / mm / mm	620 / 1050 / 440
Dimensions of the closed machine (Length / Height / Width)	mm / mm / mm	885 / 425 / 440
Noise level (in compliance with IEC 704/1)	dB (A)	66.1
Vibration level	m/s ²	1.18



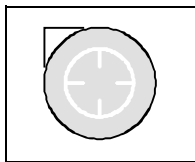
SYMBOLS USED ON THE MACHINE



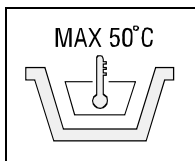
Tap symbol
Used to indicate the solenoid valve switch



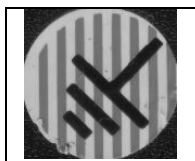
Voltage symbol
Warning high voltage 110-220 Volt



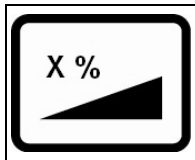
Symbol denoting suction motor
Used to indicate the suction motor switch



Indicates the maximum temperature of the detergent solution
Located near the solution tank inlet



Indicates the earth connection point of the electric system of the machine



Indicates the maximum gradient



GENERAL SAFETY REGULATIONS

The regulations illustrated below must be carefully followed in order to avoid harm to the operator and damage to the machine.

- Read the labels on the machine carefully. Do not cover them for any reason and replace them immediately if they become damaged.
- The machine must be used exclusively by authorised, trained personnel.
- During the working of the machine, pay attention to other people and especially to children.
- The machine is not suitable for cleaning carpets.
- The socket for the machine power cable must have a prescribed earth connection.
- Avoid damaging the machine power cable by crushing or bending it, or by applying stress.
- Do not let the power cable come into contact with the rotating brush.
- If the power supply cable is damaged, do not use the machine and contact an authorised service centre immediately.
- Do not mix different types of detergent as this may produce harmful gases.
- Do not place any liquid containers on the machine.
- The machine is designed for dry use only and should not be used or kept outdoors in wet conditions.
- The storage temperature must be between -25°C and +55°C; do not store outdoors in damp conditions.
- Conditions of use: room temperature between 0°C and 40°C with relative humidity between 30 and 95%.
- Only use the machine in closed areas and do not expose it directly to rain.
- Do not use the machine in an explosive atmosphere.
- Do not use the machine as a means of transport.
- Do not use acid solutions which may damage the machine.
- Avoid working with the brushes when the machine is standing still, so as not to damage the floor.
- Do not vacuum inflammable liquids.
- Do not use the device to collect dangerous powders.
- In the event of a fire, use a powder extinguisher. Do not use water.
- If you use the machine where there is a risk of falling objects, the machine must be equipped with protection devices against falling objects.
- Do not knock against shelving or scaffolding, where there is a danger of falling objects. The operator must always be equipped with the appropriate safety device (gloves, shoes, helmet, glasses, etc.)
- Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- The machine is designed to carry out the washing and drying operations simultaneously. Different operations should only be carried out in areas where the passage of unauthorised persons is prohibited. Signal the presence of damp floors with suitable signs.
- If the machine does not work properly, check this is not caused by failure to carry out routine maintenance. Otherwise, request the intervention of the **COMAC** technical assistance centre.
- If you need to replace any components, request the **ORIGINAL** spare parts from a **COMAC** dealer and/or Authorised Retailer.
- For all maintenance interventions, switch off the machine and disconnect the power cable from the socket.
- Do not remove any protection devices which require the use of tools in order to be removed.
- **Do not wash the machine with direct water jets or pressurised water, nor with corrosive substances.**
- Have the machine checked by a **COMAC** technical assistance centre every year.
- To prevent scaling in the solution tank filter, do not fill the tank with detergent solution many hours before using the machine.
- Before using the machine, check that all the hatches and covers are positioned as shown in this Use and Maintenance Manual.
- When disposing of consumption materials, observe the laws and regulations in force.
- When your **COMAC** machine has reached the end of its long working life, dispose of the materials it contains (especially oils and electronic components) in an appropriate manner, and bearing in mind that the machine itself was constructed using 100% recyclable materials.
- Only use the brushes supplied with the device, or those specified in the Use and Maintenance Manual (page 19). The use of other brushes could compromise safety levels.
- The machine is not suitable for use by children or people with reduced physical, mental and sensorial capacities, or people lacking experience and knowledge, unless supervised and instructed in the use of the machine by a person responsible for their safety.
- Children must be supervised to ensure they do not play with the device.



MACHINE PREPARATION

1. HANDLING THE PACKAGED MACHINE

The machine is contained within specific packaging.

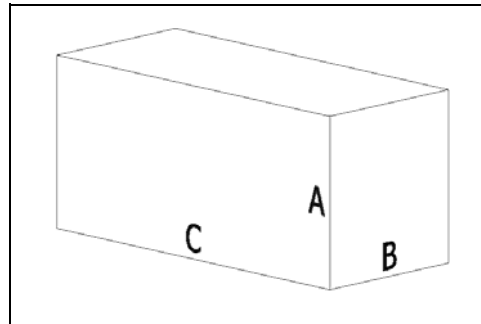
Every pallet consists of four machines arranged on two levels.

It is not possible to place more than two packages on top of each other.

The overall mass for a single package is **42 kg**.

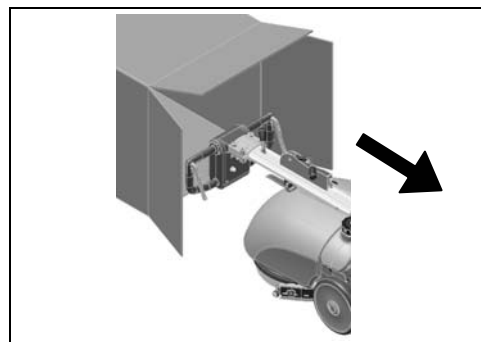
The overall dimensions of the package are:

- A : 500 mm
- B : 500 mm
- C : 1150 mm



2. HOW TO UNPACK THE MACHINE

1. Open the packaging on the side indicated.
2. Take the machine out of its packaging.

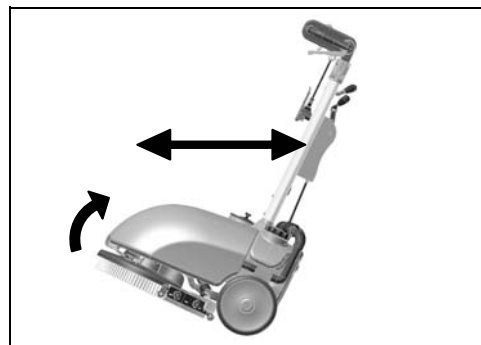


3. HANDLING AND TRANSPORTATION OF THE UNPACKAGED MACHINE

Vispa 35E is a machine that can be managed in all situations and transported without effort, even in small vehicles.

Just lift the front part, using the machine handlebars as a lever. The big rear wheels mean it can be towed anywhere and loaded on a truck by means of a simple ramp.

Vispa 35E is easy to transport even by car. Exploiting the full flexibility of the handlebars, you can fold it up (see the handlebars fixing section) and, with the help of a colleague, place it in the boot of the car without disassembling any components.



4. CONNECTING THE MACHINE

For the connection, you must:

1. Connect the extension lead (not supplied) to the plug on the handlebar.
2. block the extension lead to the cable-holder handle in front of the handlebars
3. connect the extension lead to the wall socket



WARNING: before connecting the extension lead to the socket, check the switches are in the off ("0") position!



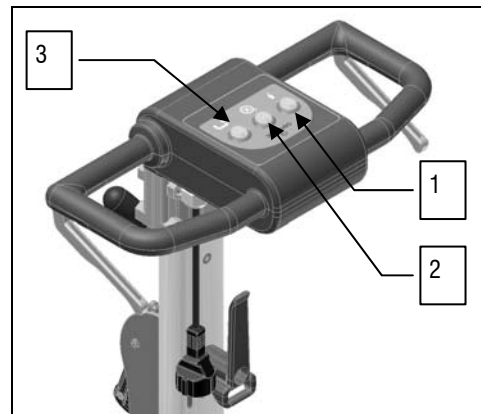


MACHINE PREPARATION

5. INSTRUMENT PANEL COMPONENTS

The instrument panel components are identified as follows:

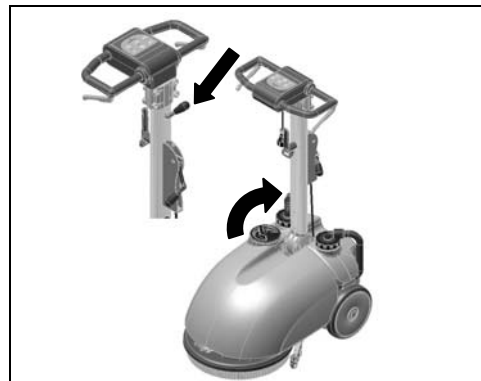
1. Main switch (1)
2. Suction switch (2)
3. Solenoid valve switch (3)



6. FIXING THE HANDLEBARS

For packaging purposes the handlebars are supplied folded; they must now be put in the working position. Proceed as follows:

1. raise the handlebars, pulling the lever (indicated by the arrow) upwards
2. put the machine in the working position

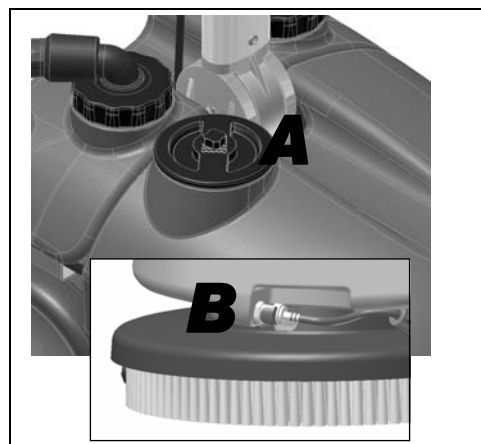


7. SOLUTION TANK

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

Verify that the cap is correctly inserted in its housing (A).

Verify that the quick connection is correctly connected (B).



8. DETERGENT SOLUTION

Proceed as follows to fill the solution tank:

1. Make sure that the recovery tank is empty
2. Make sure the main switch is off
3. Remove the inlet cap located on the rear right side of the machine.
4. Fill it with clean water at a temperature not exceeding 50°C.

Add the liquid detergent to the tank in the concentration and manner indicated on the detergent manufacturer's label. The formation of excess foam could damage the suction motor, so only use the minimum amount of necessary detergent.





MACHINE PREPARATION



ATTENTION: Acid or alkaline detergents can be used with pH values between 4 and 10 and that do not contain: oxidising agents, chlorine or bromine, formaldehyde, mineral solvents.



ATTENTION: always use detergents whose manufacturer's label indicates their suitability for scrubbing machines. Do not use acid or alkaline products or solvents without this indication.
always use low foam detergent. To avoid the production of foam, before starting to clean, put a minimum quantity of antifoam liquid into the recovery tank. Do not use pure acids.



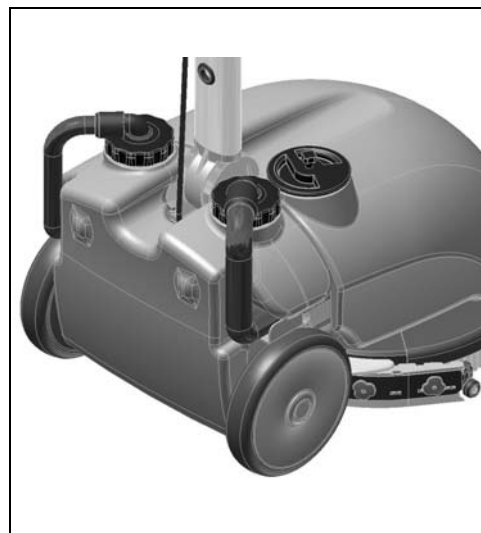
WARNING: you are advised to always wear protective gloves in order to avoid the risk of serious injury to your hands

9. RECOVERY TANK

Make sure the recovery tank is empty, otherwise empty it completely.

Verify that the recovery tank is correctly inserted in its housing, and that the tubes are correctly inserted in the tank elbows.

Verify that the caps are correctly closed.



ASSEMBLING THE BRUSH

To insert the brush:

1. Connect the machine to the mains power supply
2. Place the brush in front of the base body
3. Raise the base using the handlebars as a lever
4. Place the base above the brush
5. Activate the handlebar tilt lever
6. Press the main switch to turn on the machine
7. Pulse press the man present lever to engage the brush to the base





WORK

1. PREPARING TO WORK

Certain operations must be carried out before starting any work:

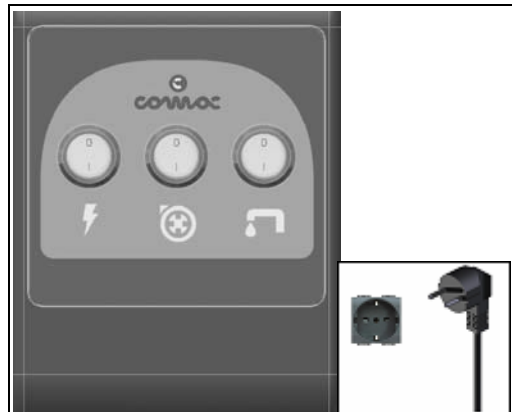
4. Verify that the tanks are properly inserted in the housings and connected.
5. verify that the switches are in the off ("0") position
6. connect the cable to the socket



ATTENTION: Verify that the electricity socket has a protective conductor (or an earth conductor).

ATTENTION: Verify that the power supply voltage and frequency comply with the nominal values required by the machine.

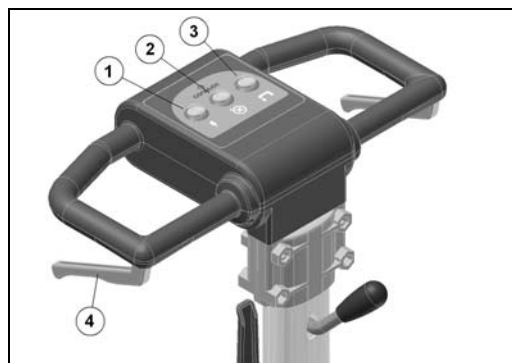
ATTENTION: Verify that the power supply cable is in perfect condition.



7. carry out the operations to prepare the machine
8. lower the squeegee command lever in order to start working



9. press the main switch (1) and check the green indicator light comes on
 10. press the suction switch (2) and check the green indicator light comes on
 11. press the solenoid valve switch (3) and check the green indicator light comes on
- At this point, the machine can work efficiently until the detergent solution runs out; use the operating lever that activates the brushes (4)



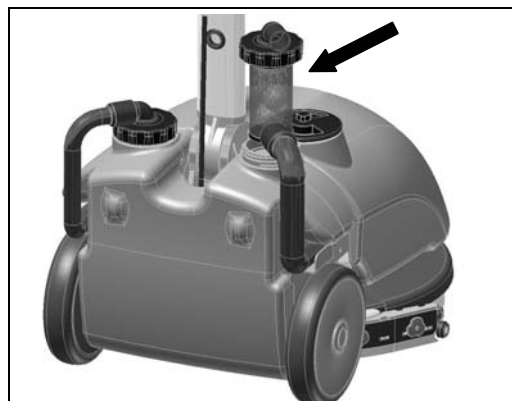
2. OVERFLOW DEVICE

The machine is fitted with a ball filter which is activated when the recovery tank is full, causing the suction tube to close.

In this case, you must switch off the machine and empty the recovery tank.



WARNING: this operation must be carried out by wearing gloves to protect against contact with dangerous solutions.





WORK

3. FORWARD MOVEMENTS

The traction of these machines is obtained by means of the brush which, by working slightly inclined, is able to drag the machine forwards.



WARNING: Ensure that the moving brush never comes into contact with the power supply cable.



WARNING: when making even brief reverse movements, verify that the squeegee is raised.

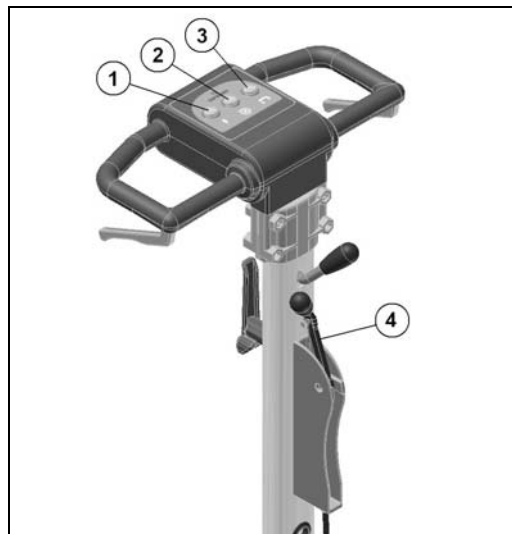




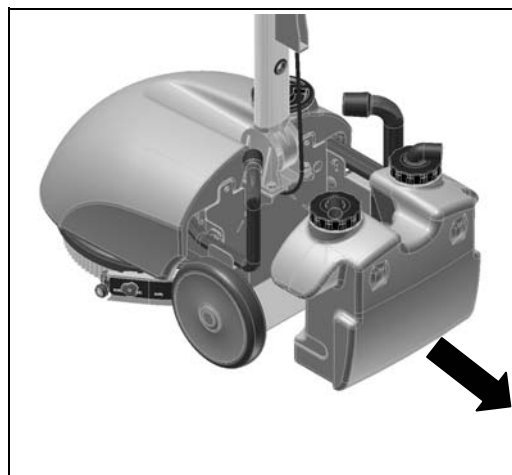
AT THE END OF THE WORK

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

1. Turn off the solenoid valve switch (3)
2. Raise the squeegee by means of the rear handle (4)
3. Turn off the suction switch (2)
4. Turn off the main switch (1)
5. Disconnect the power cable from the socket



6. bring the machine to the place provided for draining the water
7. Detach the tubes and remove the recovery tank
8. Disconnect the hook securing the recovery tank on the rear of the machine.
9. Remove the recovery tank.



10. empty the recovery tank by removing the caps and tilting it
11. disassemble the brush and clean it with a jet of water (to disassemble the brush, see "DISASSEMBLING THE BRUSH" below)



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





DAILY MAINTENANCE

PERFORM ALL MAINTENANCE OPERATIONS IN SEQUENCE

1. CLEANING THE RECOVERY TANK

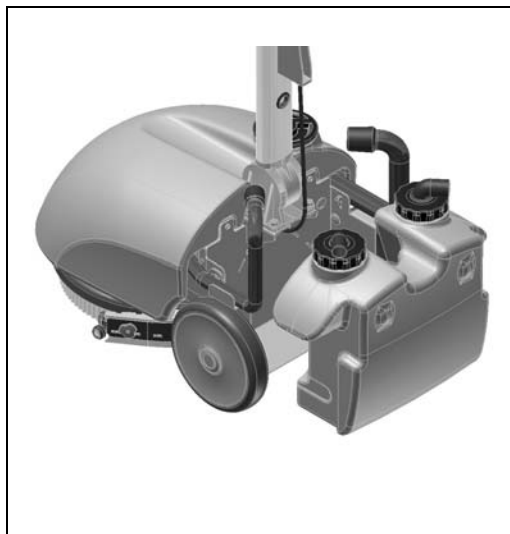
1. Make sure that the power cable of the machine is unplugged from the mains socket
2. Remove the tubes attached to the connectors of the recovery tank caps.
3. Disconnect the hook securing the recovery tank on the rear of the machine.
4. Remove the recovery tank.



ATTENTION: this operation must be carried out by wearing gloves in order to protect against contact with dangerous solutions.



WARNING: Before carrying out any type of maintenance, disconnect the machine's power supply cable.



5. Remove the caps to open the tank.
6. Clean the filter under running water.
7. Rinse the tank and clean with a jet of water.



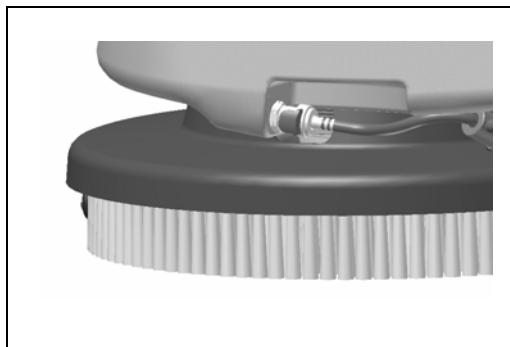
WARNING: this operation must be carried out by wearing gloves to protect against contact with dangerous solutions.



2. EMPTYING OF THE SOLUTION TANK

Proceed as follows to empty the solution tank:

1. Switch off the solenoid valve switch
2. Switch off the suction switch
3. Switch off the main switch
4. Disconnect the power cable from the socket
5. Disconnect the quick connector on the front of the solution tank
6. Insert the **Vispa E solution tank discharge pipe kit** (optional)



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



DAILY MAINTENANCE

2. CLEANING THE SQUEEGEE

Check the squeegee rubbers are always clean, for a better drying action.

To clean them you must:

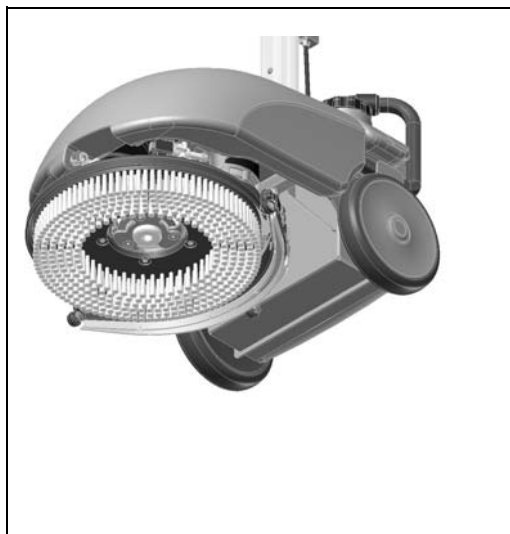
1. raise the machine
2. carefully clean inside
3. carefully clean the squeegee rubbers



ATTENTION: this operation must be carried out by wearing gloves in order to protect against contact with dangerous solutions.



WARNING: Before carrying out any type of maintenance, disconnect the machine's power supply cable.



3. REPLACING THE SQUEEGEE RUBBERS

Verify that the state of wear and tear of the squeegee rubbers and, if necessary, replace them. To replace them you must:

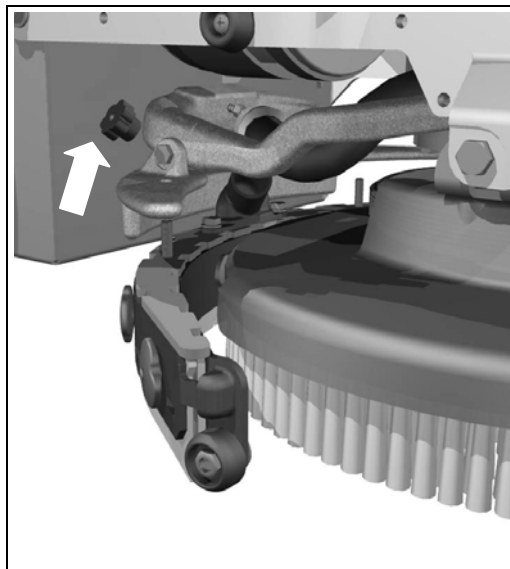
1. Raise the squeegee
2. Remove the two knobs
3. disassemble the squeegee from its support
4. Remove the tube from the squeegee nozzle so the squeegee can be removed



ATTENTION: this operation must be carried out by wearing gloves in order to protect against contact with dangerous solutions.



WARNING: Before carrying out any type of maintenance, disconnect the machine's power supply cable.



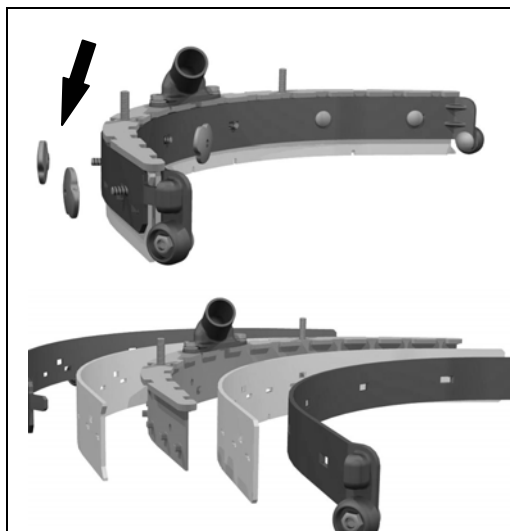
5. unscrew the knobs on the squeegee that block the rubber-pressing blades, and remove them
6. remove the rubber-pressing blades
7. replace the rubbers
8. reassemble everything, carrying out the above-mentioned operations in the reverse order



ATTENTION: this operation must be carried out by wearing gloves in order to protect against contact with dangerous solutions.



WARNING: Before carrying out any type of maintenance, disconnect the machine's power supply cable.





DAILY MAINTENANCE

4. DISASSEMBLING THE BRUSH

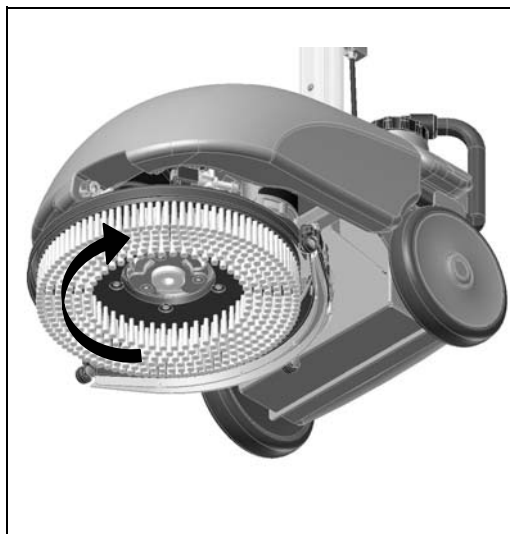
1. Raise the squeegee
2. Raise the machine by using the handlebars as a lever and position it with the recovery tank on the ground.
3. With the base raised, remove the brush manually by rotating it clockwise.



WARNING: during this operation, verify that there are no people or objects near the brush.



WARNING: Before carrying out any type of maintenance, disconnect the machine's power supply cable.





PERIODIC MAINTENANCE

1. CLEANING THE SQUEEGEE TUBE

Periodically, or whenever suction seems to be unsatisfactory, check the squeegee tube is not obstructed. To clean it, proceed as follows:

1. Make sure that the power cable of the machine is unplugged from the mains socket
2. Remove the tube from the sleeve on the squeegee
3. Remove the other end from the recovery tank
4. Wash the inside of the tube with a water jet introduced from the side where it is connected to the tank
5. Re-assemble the tube



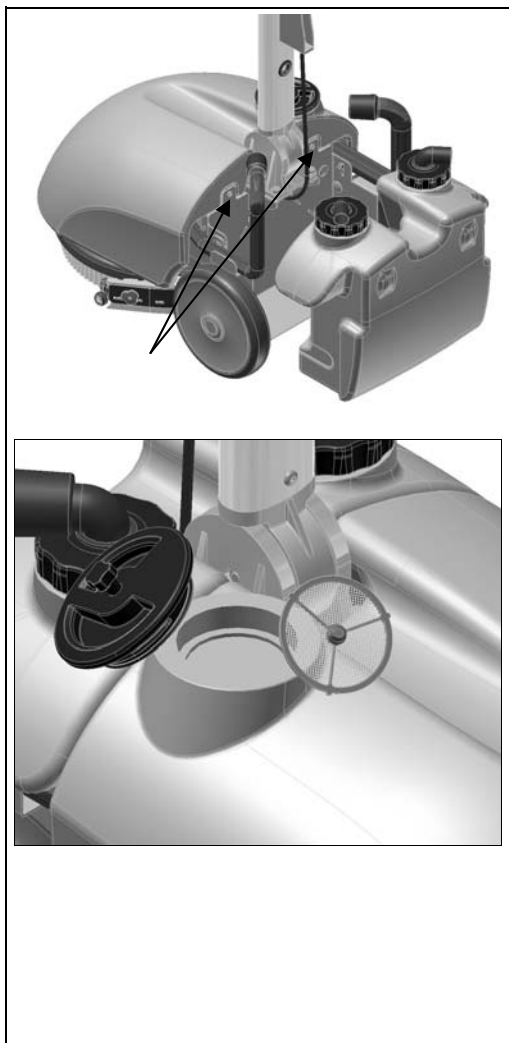
WARNING: do not wash the tube running between the suction unit and the suction cap.

2. CLEANING THE SOLUTION TANK AND FILTER

1. remove the recovery tank
2. Detach the quick connection to avoid breaking the connection itself.
3. Using a screwdriver, remove the two screws fixing the solution tank to the frame.
4. Remove the solution tank by pushing it forwards and unhooking it from the fixing bracket.
5. Loosen the solution tank cap
6. Remove the filter and clean it.
7. Rinse the tank and clean with a jet of water.
8. Reassemble the filter and cap.
9. Reassemble the tank, carrying out the above operations in the reverse order.



WARNING: this operation must be carried out by wearing gloves in order to protect against contact with dangerous solutions.





TROUBLESHOOTING

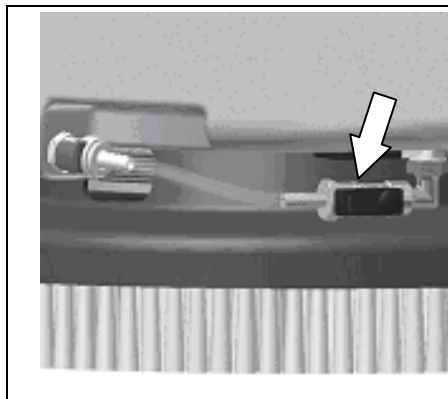
1. ELECTRICAL SYSTEM SAFETY

The machine is fitted with a thermal trip unit with manual reset.
The brush motor is reset by resetting the thermal trip unit located beneath the handlebars.
If the machine stops repeatedly in a short space of time, you must contact the Comac technical assistance centre.



2. INSUFFICIENT WATER ON THE BRUSHES

1. Check the solution tank filter is clean.
2. Check the solenoid valve switch is on.
3. Check the quick connection is correctly inserted.
4. Check the cock regulation screws on the water outlet.
5. Check the vent pin on the solution tank cap is lowered.



3. THE MACHINE DOES NOT CLEAN WELL

1. Check the state of wear and tear of the brushes and, if necessary, replace them. The brushes should be changed when the bristles are about 15mm long.

4. THE SQUEEGEE DOES NOT DRY PERFECTLY

1. Verify that the squeegee rubbers are clean.
2. Verify that the suction tubes are correctly inserted in their housing on the squeegee.
3. Verify that the distributor is clean.
4. Replace the rubbers, if worn.



5. EXCESSIVE FOAM PRODUCTION

Verify that a low foam detergent has been used. If necessary, add a small quantity of antifoam liquid to the recovery tank.
Remember that, when the floor is not very dirty, more foam is generated. In this case the detergent solution should be more diluted.



CHOOSING AND USING THE BRUSHES

POLYPROPYLENE BRUSH (PPL)

Used on all types of floors. Good resistance to wear and tear, and hot water (no greater than 60°C). The Polypropylene brush is non-hygroscopic and therefore retains its characteristics even when working in wet conditions.

PAD HOLDER

The pad holder is recommended for cleaning shiny surfaces.

There are two types of pad holders of the CENTRE LOCK type, equipped with a snap-type central locking system in plastic that allows the abrasive floor pads to be perfectly centred and held without any risk of them becoming detached:

1. fitted with a series of anchor points that allow the abrasive floor pad to be held and dragged while working
2. fitted with a series of groups of bristles that allow the abrasive floor pad to be held and dragged while working

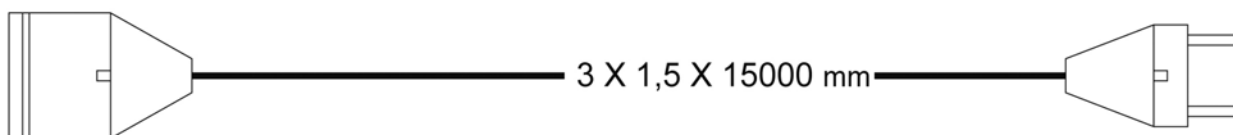
TABLE FOR CHOOSING THE BRUSHES

Machine	No. of brushes	Code	Type of bristles	Ø Bristles	Ø Brush	Notes
VISPA 35E	1	421701	PPL	0.6	355	
		422213	Pad holder – anchor		355	
		422001	Pad holder – bristles	0.9	355	

SUGGESTED POWER CABLE EXTENSION

CAST SCHUKO PLUG

CAST SCHUKO PLUG





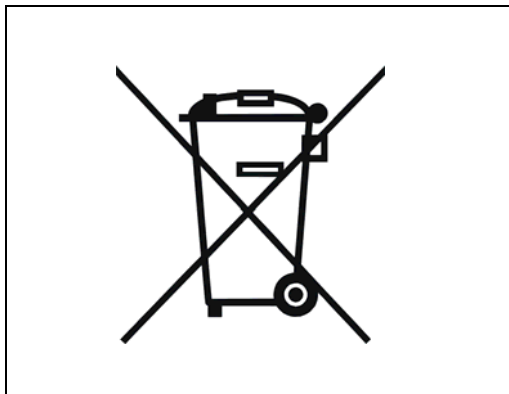
MACHINE DISPOSAL

To dispose of the machine, take it to a demolition centre or an authorised collection centre.

Before scrapping the machine, it is necessary to remove and separate the following materials and then send them to the appropriate collection centres, in accordance with the currently effective environmental hygiene regulations:

- brush
- felt
- electric and electronic parts*

(*) In particular and in order to scrap the electric and electronic parts, contact your area distributor.





EC DECLARATION OF CONFORMITY

The undersigned company:

COMAC S.p.A.

Via Maestri del Lavoro n.13

37059 Santa Maria di Zevio (VR)

declares under its sole responsibility that the

FLOOR SCRUBBING MACHINE mod. VISPA 35E

complies with the requirements of the following Directives:

- 2006/42/EC: Machinery Directive
- 2006/95/EC: Low Voltage Directive
- 2004/108/EC: Electromagnetic Compatibility Directive and subsequent amendments.

It also complies with the following norms:

- EN 60335-1: Household and similar electrical appliances - Safety. Part 1: Generic standards
- EN 60335-2-72: Household and similar electrical appliances. Part 2: Generic standards for automatic machines for floor treatment for commercial and industrial use
- EN 12100-1: Machine safety - Fundamental concepts, fundamental principles of design - Part 1: Basic terminology and methodology
- EN 12100-2: Machine safety - Fundamental concepts, fundamental principles of design - Part 2: Technical principles
- EN 55014-1: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 1: Emission - Regulation for product family.
- EN 55014-2: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 2: Immunity - Regulation for product family.
- EN 61000-6-1: Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments
- EN 61000-6-2: Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.
- EN 61000-6-3: Electromagnetic compatibility (EMC) - Part 6-3: Generic standards — Standard emission for residential, commercial and light-industrial environments
- EN 61000-3-2: Electromagnetic compatibility (EMC) - Part 3-2: Limits – Limits for harmonic current emissions (Equipment with input current ≤ 16 A per phase).
- EN 61000-3-3: Electromagnetic compatibility (EMC) - Part 3-3: Limits – Restriction of voltage variations and flicker in low voltage power supply systems for devices with a rated current ≤ 16 A.
- EN 62233: Household and similar electrical appliances - Electromagnetic fields Methods for evaluation and measurement

The person authorised to draw up the technical sheet:

Sig. Giancarlo Ruffo
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37059 Santa Maria di Zevio (VR) - ITALY

Santa maria di Zevio (VR), 01/10/2010

COMAC S.p.A.
Il Legale Rappresentante
Giancarlo Ruffo

COMAC spa

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