

**ROMUS**<sup>®</sup>

**“SANDY 2”**  
**ref.94451-94476-94880**

**USE AND MAINTENANCE MANUAL\_GB**



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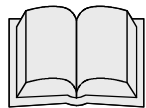
### SYMBOLS USED IN THE MANUAL

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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

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

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Warning symbol  
Indicates the risk of gas exhalation and leakage of corrosive liquids

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Warning symbol  
Indicates that the packed product should be handled with suitable lifting means that comply with the legal requirements

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## CONTENTS

<b>ON CONSIGNMENT OF THE MACHINE</b> .....	4
<b>INTRODUCTORY COMMENT</b> .....	4
<b>INTENDED USE</b> .....	4
<b>SERIAL NUMBER PLATE</b> .....	4
<b>TECHNICAL DESCRIPTION</b> .....	4
<b>SYMBOLS USED ON THE MACHINE</b> .....	5
<b>GENERAL SAFETY REGULATIONS</b> .....	6
<b>MACHINE PREPARATION</b> .....	7
1. HANDLING THE PACKED MACHINE .....	7
2. HOW TO UNPACK THE MACHINE .....	7
3. HOW TO MOVE THE MACHINE .....	7
4. HANDLING AND TRANSPORTATION OF THE MACHINE .....	7
5. HANDLEBAR COMPONENTS.....	7
6. STEERING COLUMN COMPONENTS.....	8
7. ADJUSTING THE HANDLEBAR - WORK POSITION .....	8
8. ASSEMBLING THE SOLUTION TANK (OPTIONAL) .....	8
9. DETERGENT SOLUTION .....	9
10. ASSEMBLING THE BRUSH .....	9
<b>WORK</b> .....	10
11. PREPARING TO WORK .....	10
12. MANOEUVRABILITY OF THE MACHINE .....	10
13. WORK.....	10
<b>AT THE END OF THE WORK</b> .....	12
<b>DAILY MAINTENANCE</b> .....	13
14. DISASSEMBLING THE BRUSH / PAD-HOLDER.....	13
<b>WEEKLY MAINTENANCE</b> .....	14
15. CLEANING THE SOLUTION TANK .....	14
<b>TROUBLESHOOTING</b> .....	15
16. THERMAL CUT-OUT .....	15
17. NOT ENOUGH DETERGENT SOLUTION ON THE BRUSH (OPTIONAL) .....	15
18. THE MACHINE VIBRATES OR OSCILLATES .....	15
<b>DISPOSAL</b> .....	16
<b>CHOOSING AND USING THE BRUSHES</b> .....	17
<b>ELECTRICAL SYSTEM DIAGRAM - 94451</b> .....	18
<b>ELECTRICAL SYSTEM DIAGRAM - 94476- 1800W</b> .....	19
<b>ELECTRICAL SYSTEM DIAGRAM - 94480- 2200W</b> .....	20
<b>EC DECLARATION OF CONFORMITY</b> .....	21

## ON CONSIGNMENT OF THE MACHINE

When the machine is consigned 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 suffered damage 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.

## INTRODUCTORY COMMENT

**CM33-43 F and CM33-43 F PLUS** These machines are built for the professional cleaning of hard and vinyl indoor floors, to be carried out by following the instructions. Any use of the machine for other purposes is dangerous and therefore prohibited. The machine is suitable for collective use, for example in hotels, schools, hospitals, factories, shops, offices and condominiums.

The machine must be used only for this purpose.

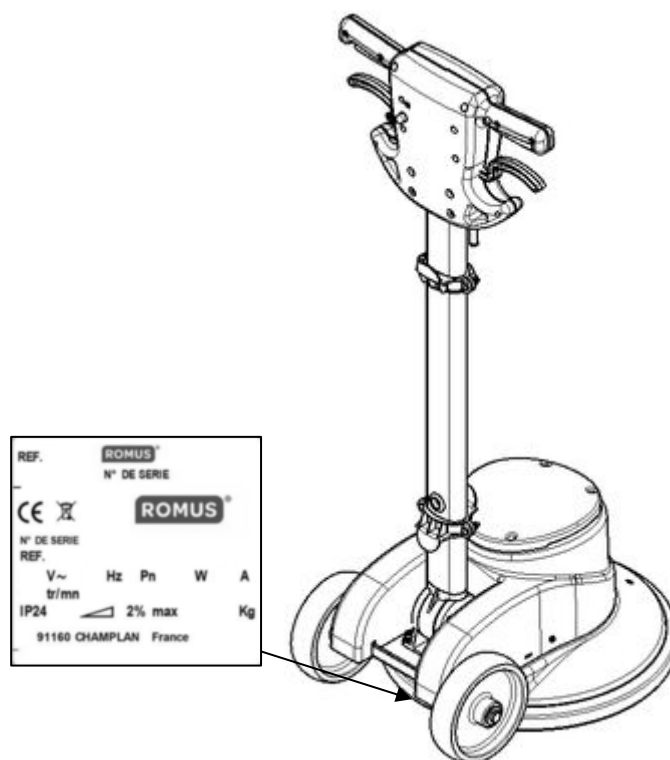
Even the best machines will only work well if used correctly and kept in good working order. This brochure offers you all the information necessary to use the models of the "single-disc" machines in a regular, safe and suitable manner, and it must always be kept available for the user. We therefore recommend you read this instruction booklet carefully, and consult it 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 floor scrubbing machine is designed for the professional cleaning of surfaces and floors in industrial, commercial and public environments only. It is only suitable for use in closed (or at least covered) places.

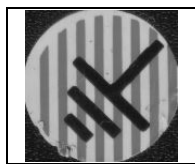
The machine is not suitable for use in the rain, or under water jets. It is **FORBIDDEN** to use the machine for picking up dangerous dusts or inflammable liquids in places with an explosive atmosphere. In addition, it is not suitable as a means of transport for people or objects.

## SERIAL NUMBER PLATE

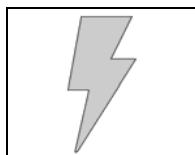


TECHNICAL DESCRIPTION	UM	94451	94476 (1800W)	94480 (2200W)
Working width	mm	430	430	430
Disc brushes	∅ mm	430	430	430
Brush rotations	rpm	160	160	160
Brush motor power	W	1350	1800	2200
Brush motor voltage	V	230	230	230
Brush motor frequency	Hz	50	50	50
Maximum gradient with full load	%	2	2	2
Solution tank capacity (optional)	l	15	15	15
Rear wheel diameter	mm	175	175	175
Machine length	mm	600	600	600
Machine height at motor level (without brush)	mm	290	325	350
Machine height at steering gear level (without brush)	mm	1155	1155	1155
Machine width Tank	mm	450	450	450
Machine service weight (without solution tank)	kg	40	42	45
Length of power supply cable	m	15	15	15
Sound pressure level (ISO 11201) - L <sub>pA</sub>	dB (A)	<70	<70	<70
Uncertainty K <sub>pA</sub>	dB (A)	1.5	1.5	1.5
Hand vibration level (ISO 5349)	m/s <sup>2</sup>	<2.5	<2.5	<2.5
Uncertainty of measurement of vibrations				

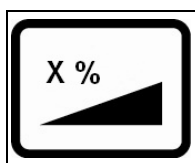
## SYMBOLS USED ON THE MACHINE



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



Voltage symbol  
Warning - high voltage 230 Volt.



Indicates the maximum gradient.

<b>GENERAL SAFETY REGULATIONS</b>
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The regulations below must be carefully followed in order to avoid harm to the operator and damage to the machine.

**WARNING:**

- 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 exclusively used by authorised, trained personnel.
- Do not use the machine on surfaces with an inclination greater than the one shown on the plate.
- The machine is not suitable for cleaning rough or uneven floors. Do not use the machine on slopes.
- If the power supply cable gets damaged, the machine must be stopped if it is operating. Disconnect the plug from the power supply, and have the cable replaced immediately by an authorised service centre.
- In the event of danger, quickly disconnect the power cable plug from the mains socket.
- For all maintenance interventions, switch off the machine and disconnect the power cable plug from the mains socket.
- Children must be supervised to ensure they do not play with the machine.
- During the working of the machine, pay attention to other people and especially to children.
- Use only the brushes or pad holders supplied with the machine, or those specified in the Instructions Manual - in the paragraph "[CHOOSING AND USING THE BRUSHES](#)". The use of other brushes or pad holders could compromise safety levels.
- The machine must only be powered with a voltage of the level shown on the serial number plate.

**ATTENTION:**

- The machine is not suitable for use by children and persons with reduced physical, mental and sensory capabilities, or people who lack experience and knowledge.
- The machine must not be used or stored outdoors, in damp conditions or directly exposed to rain.
- 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%.
- The socket for the machine power cable must have a prescribed earth connection.
- Adapt the speed to the adhesion conditions.
- Do not use the machine as a means of transport.
- The machine does not cause harmful vibrations.
- Do not use the machine in an explosive atmosphere.
- Do not use the machine to collect dangerous powders.
- Do not mix different types of detergent as this may produce harmful gases.
- The machine is not suitable for cleaning carpets or textile flooring.
- Do not place any liquid containers on the machine.
- Avoid working with the brushes when the machine is standing still, so as to avoid damage to the floor.
- Avoid damaging the machine power cable by crushing or bending it, or by applying stress.
- Attention: do not let the power cable come into contact with the rotating brush.
- In the event of a fire, use a powder extinguisher. Do not use water.
- 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 devices (gloves, shoes, helmet, goggles, etc.).
- Polishing operations must 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, ask for intervention of the authorised technical assistance centre.
- If you need to replace any components, request the ORIGINAL spare parts from an Authorised dealer and/or Retailer.
- Restore all electrical connections after any maintenance interventions.
- Before using the machine, check that all the hatches and covers are positioned as shown in this Use and Maintenance Manual.
- Do not remove the guards that can only be removed with the aid of tools, except for maintenance work (see the relevant paragraphs).
- Do not put your hands into the machine during operation.
- Do not remove the covers and/or guards when the machine is running.
- Do not operate the machine without any protections.
- Do not approach the machine with clothes that could get entangled: AVOID the use of scarves, shawls, wraps and loose clothing.
- Avoid working over pieces of rope, wire, cables: these can be caught in the brush and create friction.
- Do not wash the machine with direct water jets or with pressurised water, nor with corrosive substances.
- Do not use acid or basic solutions that could damage the machine and/or harm people.
- Have the machine checked by an authorised technical assistance centre every year.
- When disposing of consumable materials, observe the laws and regulations in force.
- When your 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, taking into account that the machine itself was constructed by using 100% recyclable materials.

## MACHINE PREPARATION

### 1. HANDLING THE PACKED MACHINE

The machine is contained in specific packaging with a pallet for the handling with fork trucks. The packages CANNOT be placed on top of each other.

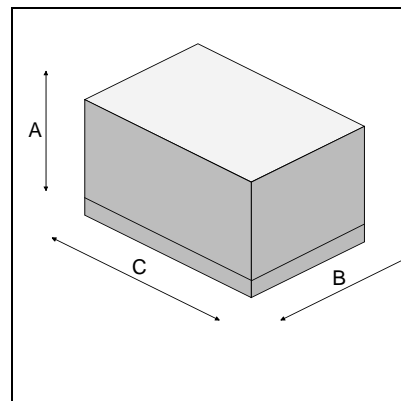
The total mass of the machine with packaging is 44kg (94451 without solution tank).

The total mass of the machine with packaging is 46kg (94476-1800W without solution tank).

The total mass of the machine with packaging is 49kg (94480- 2200W without solution tank).

The dimensions of the packaging are as follows:

A :	1190 mm
B :	610 mm
C :	490 mm



### 2. HOW TO UNPACK THE MACHINE

1. The machine is fixed inside the box by means of reinforcements; remove them and set them aside for any future transportation.
2. Remove the outer package.
3. Use a chute to get the machine down from the pallet, pulling it backwards.
4. Keep the pallet for any future transport needs.



**ATTENTION:** If the product is delivered in cardboard containers, handle the packed product with suitable lifting means that comply with the legal requirements

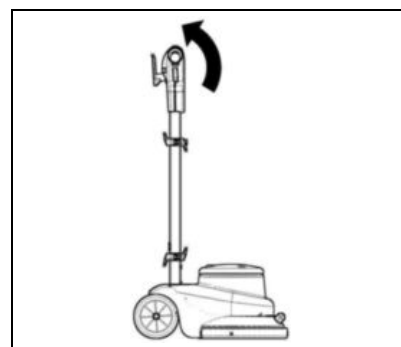
### 3. HOW TO MOVE THE MACHINE

1. Make sure the solution tank (optional) is empty.
2. Remove the brush from the base (see [DISASSEMBLING THE BRUSH / PAD-HOLDER](#)).
3. Position the single brush on the pallet by means of a chute.
4. Insert the cardboard and the previously kept supports.

### 4. HANDLING AND TRANSPORTATION OF THE MACHINE

To handle the machine safely, proceed as follows:

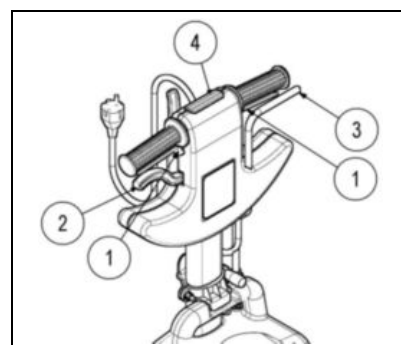
1. Make sure the solution tank (optional) is empty.
2. Rotate the handlebar to its resting position (see [ADJUSTING THE HANDLEBAR – WORK POSITION](#)) and lock it in place.
3. Tilt the machine, by putting a foot into the rear of the base body, so only the rear wheels touch the ground and the machine can move freely.



### 5. HANDLEBAR COMPONENTS

The handlebar components are identified as follows:

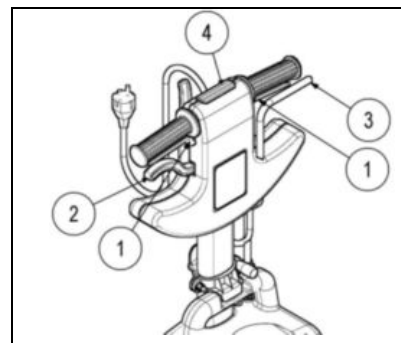
1. Main switch control lever.
2. Handlebar tilt adjustment lever.
3. Solution tank tap control lever (optional).





## MACHINE PREPARATION

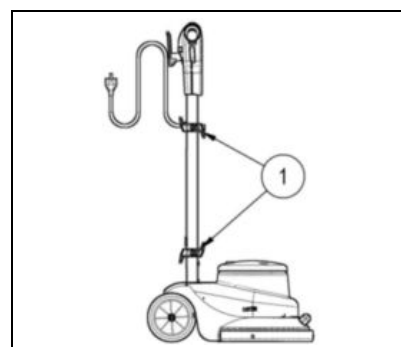
4. Dead man's lever.



### 6. STEERING COLUMN COMPONENTS

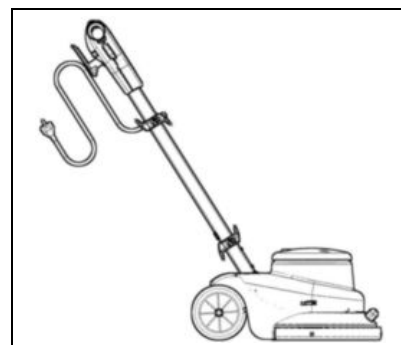
The handlebar column components are identified as follows:

1. Cable winder bracket.



### 7. ADJUSTING THE HANDLEBAR – WORK POSITION

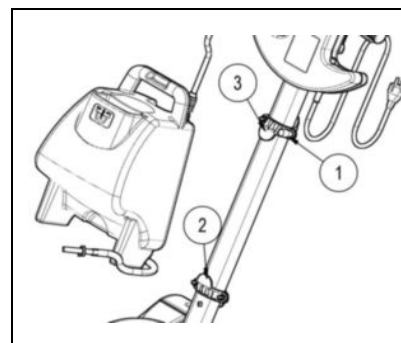
Before you start working with the machine, you will need to find the correct work position. To do this, press the tilt adjustment lever, release it until your arms are slightly bent and as low as possible, while keeping the back straight and the legs slightly apart. When working the operator is behind the machine.



### 8. ASSEMBLING THE SOLUTION TANK (OPTIONAL)

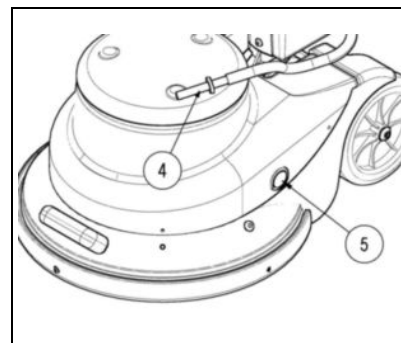
To insert the solution tank onto the handlebars, proceed as follows:

1. Secure the handlebar in a position at about 45° in relation to the ground.
2. Loosen the closing knob (1) and position the top brackets more than halfway up the column (if they are not already in place).
3. Put the solution tank on the column, so that the bottom of the tank is anchored to the fixed bracket (2) on the column itself.
4. Holding the tank with one hand, move the mobile bracket (3) down until the solution tank is locked to the column.
5. Lock the position of the mobile bracket (3) by tightening the closing knob (1).



## MACHINE PREPARATION

6. Insert the water distribution pipe (4) in the hole on the brush head (5).



### 9. DETERGENT SOLUTION

Fill the solution tank only when the column is in vertical position, by proceeding as follows:

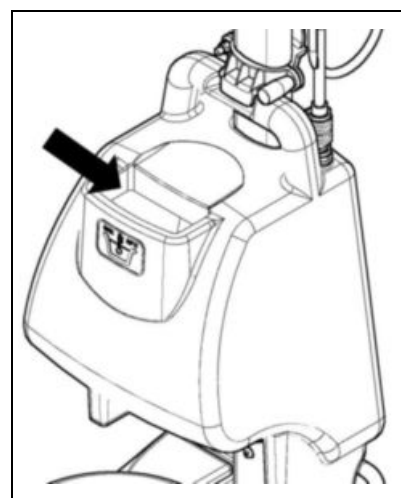
1. Fill it with clean water at a temperature not exceeding 50°C.
2. Add the liquid detergent to the tank in the concentration and manner indicated on the detergent manufacturer's label. The formation of excess foam could damage the internal components of the machine, so only use the minimum amount of detergent needed.



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



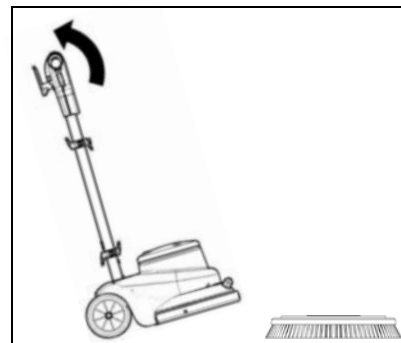
**WARNING:** We recommend that you vacuum at intervals the dirt-loaded foam with a vacuum cleaner for liquids.



### 10. ASSEMBLING THE BRUSH

To insert the brush:

1. Plug the power supply cable into the mains socket.
2. Place the brush in front of the brush head unit.
3. Raise the brush head by using the handlebar as a lever.
4. Position the brush head above the brush.
5. Activate the handlebar tilt lever.
6. Press the dead man's lever and pulse-press the main switch control lever to insert the brush in the brush head.



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

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

**WARNING:** Make sure the brushes are correctly connected. If this is not the case, the machine could move in an irregular, sudden manner.

## WORK

### 11. PREPARING TO WORK

1. Make sure the power supply cable is not damaged.
2. Plug the power supply cable of the machine into the mains socket.
3. Bring the handlebar to the work position by acting on the release lever.

### 12. MANOEUVRABILITY OF THE MACHINE

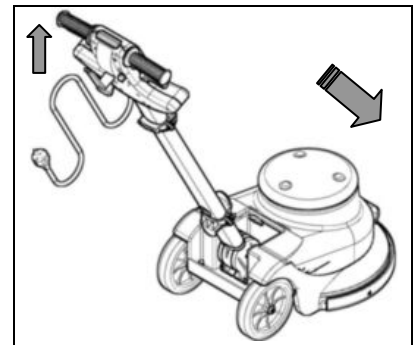
The first time an operator uses the machine, he/she should become familiar with the movements to be imparted to the shaft in order to be confident enough with the directionality of movement of the machine, and should therefore not operate the machine near people or obstacles.

Work in slow movements to the right and left, possibly moving back so that the operator always stands on an area of the floor yet to be cleaned up.

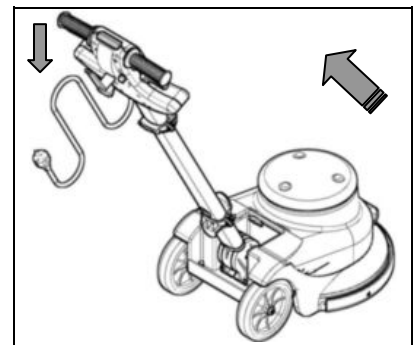
Keep the power supply cable behind the operator, taking care not to operate the machine in its vicinity in order not to damage it.

Do not insist too much on the same area so as to avoid damaging the floor, also in function of the type of brush or abrasive floor pad chosen.

In operation, the machine moves to the right by slightly lifting the handlebars.

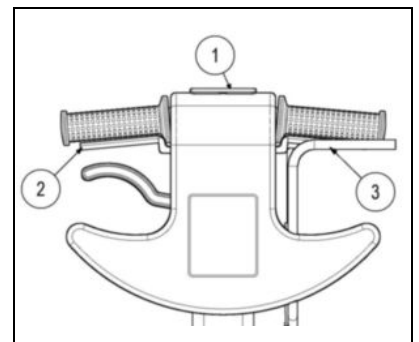


In operation, the machine moves to the left by slightly lowering the handlebars.



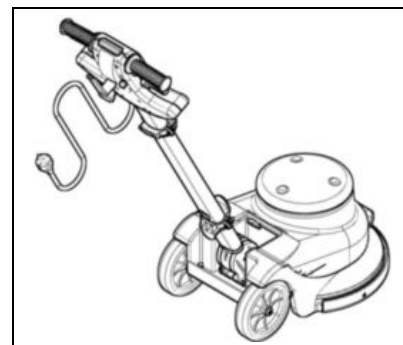
### 13. WORK

1. At this point, by pressing the dead man's lever (1) and activating the main switch control lever (2), the machine can operate at full efficiency.
2. Let the machine run on dry for a few seconds (optional solution tank kit).
3. Apply a small amount of detergent solution to the floor by pressing the lever (3) until the brush is saturated with foam (optional solution tank kit).



## WORK

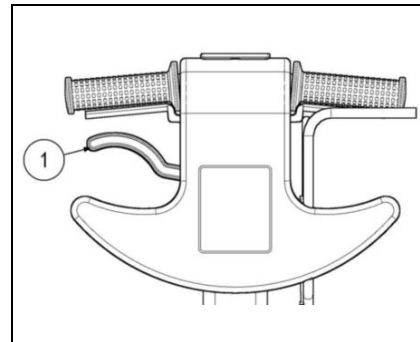
4. Push the machine with the brush rotating from left to right or vice versa.
5. Immediately afterwards, push the machine in the same way but in the opposite direction, so that about one quarter of the working width overlaps the previous one.
6. We recommend that you vacuum up the dirt-loaded foam at intervals with the aid of a vacuum cleaner for liquids (optional solution tank kit).



## 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. Disconnect the plug from the mains socket.
2. Wind it onto the rear brackets.
3. Operate the handlebar adjustment lever (1) and bring the column to its idle position.
4. Move the machine indoors, in an area where it cannot cause any damage to people or surrounding property, but where it can also be protected against the accidental fall of objects. In addition, do not park the machine in open places or on sloping floors
5. Disassemble the brush and clean it with a jet of water (to disassemble the brush, see "[DISASSEMBLING THE BRUSH / PAD-HOLDER](#)" below).



**ATTENTION:** you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands.

## DAILY MAINTENANCE

PERFORM ALL MAINTENANCE OPERATIONS IN SEQUENCE

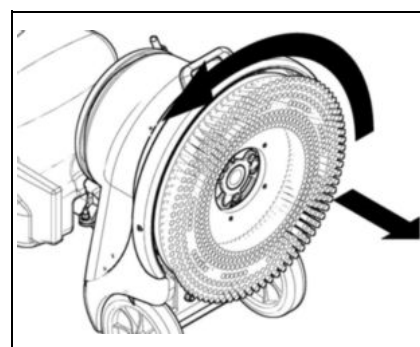
### 14. DISASSEMBLING THE BRUSH / PAD-HOLDER

1. Make sure the power supply cable is unplugged from the mains socket.
2. Check that the handlebar is in its idle position.
3. Tilt the machine until the handlebar is on the ground (do this by placing your foot on the rear of the brush head unit).



**WARNING:** This operation must be carried out using gloves to protect against contact with dangerous solutions.

4. Rotate the brush anticlockwise until it is released from the brush-holder plate, then clean it with a jet of water. Check the bristles. If they are excessively worn, replace the brushes (the bristles should protrude by at least 10mm).

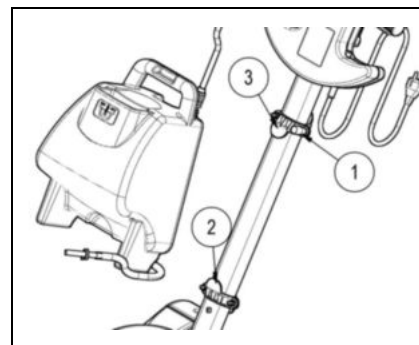


## WEEKLY MAINTENANCE

### 15. CLEANING THE SOLUTION TANK

Proceed as follows to clean the solution tank:

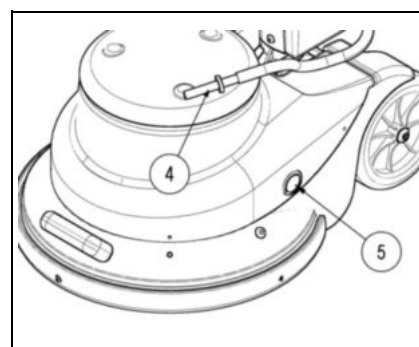
1. Make sure the solution tank is empty; otherwise, empty it by keeping the tap control lever operating.
2. Secure the handlebar in a position at about 45° in relation to the ground.
3. Remove the water distribution pipe (4) from the hole on the brush head (5).
4. Loosen the closing knob (1) and position the top brackets more than halfway up the column.



5. Remove the solution tank and clean it with a jet of running water.
6. To position it on the machine, refer to ["ASSEMBLING THE SOLUTION TANK \(OPTIONAL\)"](#).



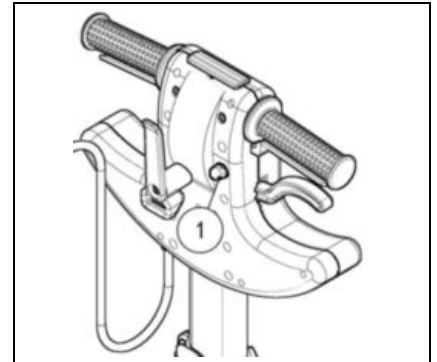
**ATTENTION:** you are advised to always wear protective gloves, to avoid the risk of serious injury to your hands.



## TROUBLESHOOTING

### 16. THERMAL CUT-OUT

The single-disc machine is equipped with the following electrical protection systems, thermal cut-out (1), located off the handlebars, to protect the motor. In the event of malfunctioning, check a thermal cut-out has not intervened. If the motor overheats, its thermal cut-out intervenes to block the electricity supply. Wait a few minutes until it has cooled down, then press the specific circuit breaker button to reactivate the power supply and motor operation.



### 17. NOT ENOUGH DETERGENT SOLUTION ON THE BRUSH (OPTIONAL)

1. Check that the valve allowing the detergent solution to flow from the tank to the brush is not blocked. Flush the tank if needed.
2. Check that the solution distribution pipe is not blocked. Flush it out if necessary.

### 18. THE MACHINE VIBRATES OR OSCILLATES

The machine has been sitting in rest position for too long, with the brush or pad holder still inserted. Replace as soon as possible.



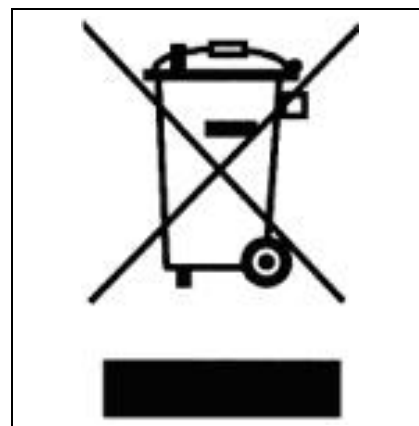
## DISPOSAL

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 out the following materials, then send them to the appropriate collection centres in accordance with the environmental hygiene regulations currently in force:

- Brushes
- Felt
- Electric and electronic parts\*
- Plastic parts (tanks and handlebar)
- Metal parts (levers and frame)

(\* ) In particular, contact your local distributor when scrapping electric and electronic parts.



## CHOOSING AND USING THE BRUSHES

### POLYPROPYLENE BRUSH (PPL)

Used on all types of floor, it has good resistance to wear and tear and hot water (not more than 60°C). PPL is non-hygroscopic and therefore retains its characteristics even when working in wet conditions.

### NYLON BRUSH

Used on all types of floors. Excellent resistance to wear and tear, and hot water (even over 60°C). The nylon is hygroscopic and so tends to lose its characteristics over time when working in wet conditions.

### ABRASIVE BRUSH

The bristles of this type of brush are charged with highly aggressive abrasives. It is used to clean very dirty floors. To avoid floor damage, work only with the pressure strictly necessary.

### THICKNESS OF THE BRISTLES

Thicker bristles are more rigid and are therefore used on smooth floors or floors with small joints.

On uneven floors or those with deep joints, it is advisable to use softer bristles which can enter the gaps more easily.

Remember that when the bristles are worn and therefore too short, they will become rigid and are no longer able to penetrate and clean deep down; as with over-large bristles, the brush tends to jump.

### PAD HOLDER

The pad holder is recommended for cleaning shiny surfaces.

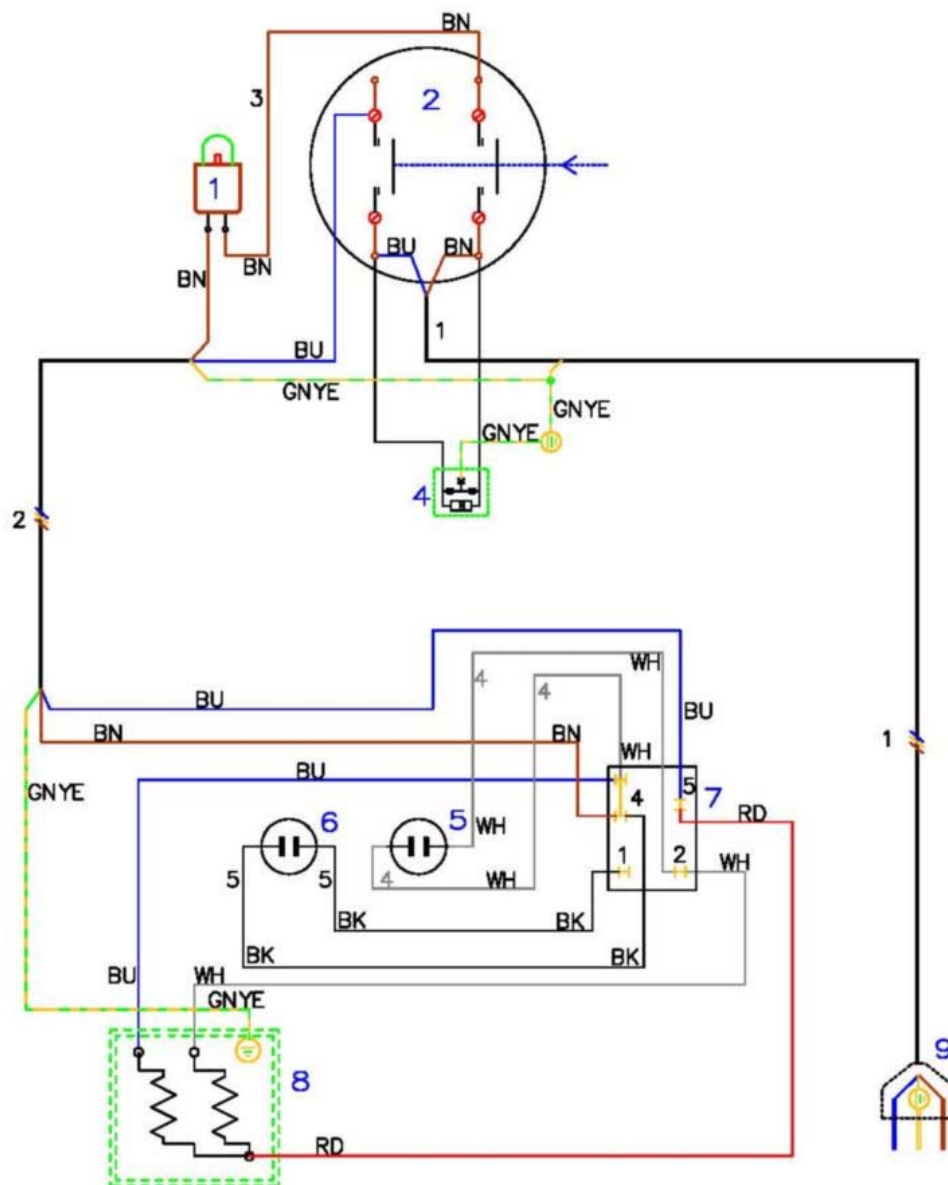
There are two types of pad holder:

1. The traditional pad-holder has a series of anchor points that hold and drag the abrasive disc while working.
2. The CENTRE LOCK type pad-holder not only has anchor points, but also a snap-type central locking system in plastic that allows the abrasive disc to be perfectly centred and held without any risk of it becoming detached. This type of holder is especially suitable for machines with several brushes, where it is difficult to centre the abrasive discs.

### TABLE FOR CHOOSING THE BRUSHES

Machine	°No. of brushes	Code	Type of bristles	∅ Bristles	∅ Brush	Length	Notes
94451	1	431361	PPL	0.7	420		BRUSH
94476-		431360	PPL	0.45	420		BRUSH
94480		405657	ABRASIVE	-	420		BRUSH
		431362	-	-	430		PAD HOLDER

## ELECTRICAL SYSTEM DIAGRAM - 94451

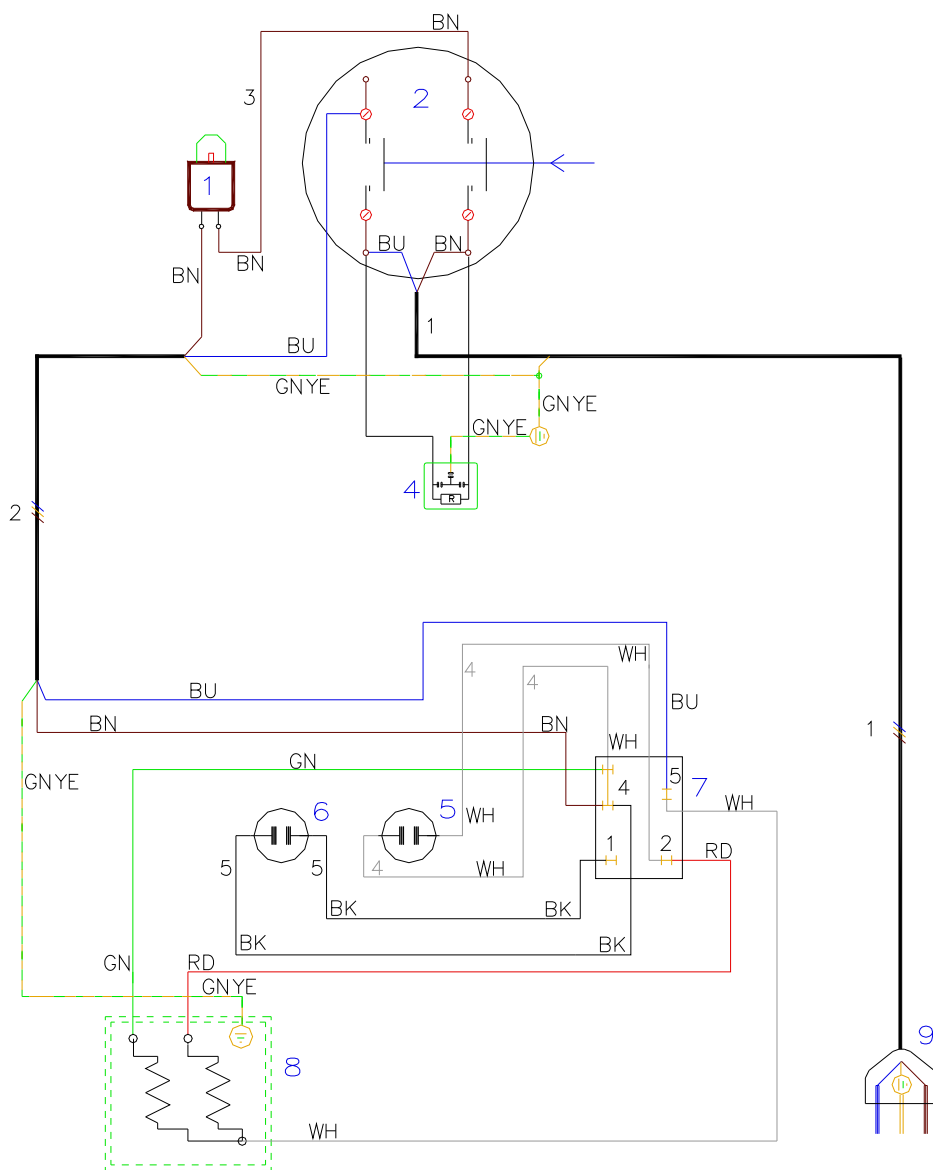


POS	COMPONENT NAMES
1	Cut-out 8A
2	Operating switch 16A
4	Noise filter
5	Operating condenser 30 $\mu$ F
6	Start condenser 145-174 $\mu$ F
7	Klixon
8	230V motor
9	Plug 16A

POS	CABLE NAMES
1	Cable 3x1.5x15 metres + Schuko plug -1-
2	Cable 3x1.5x1680 -2-
3	Brown cable 1.5x150 -3-

ABBR	CABLE
BK	Black
BU	Blue
BN	Brown
RD	Red
WH	White
GY	Grey
GNYE	Yellow-green
GN	Green

## ELECTRICAL SYSTEM DIAGRAM - 94476- 1800W

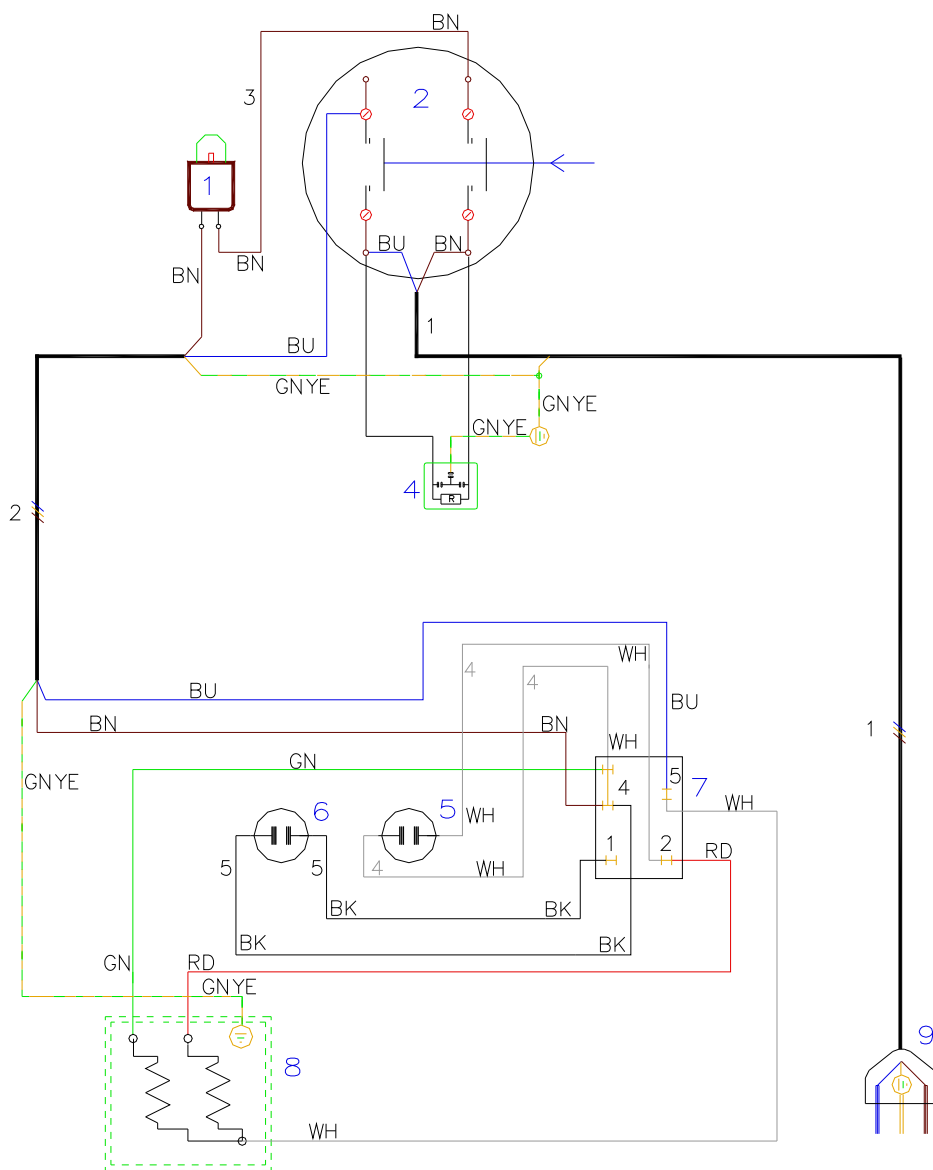


POS	COMPONENT NAMES
1	Cut-out 8A
2	Operating switch 16A
4	Noise filter
5	Operating condenser 50 $\mu$ F
6	Start condenser 120 $\mu$ F
7	Klixon
8	230V motor
9	Plug 16A

POS	CABLE NAMES
1	Cable 3x1.5x15 metres + Schuko plug -1-
2	Cable 3x1.5x1680 -2-
3	Brown cable 1.5x150 -3-
4	2 white cables 1.5x250 -4-
5	2 black cables 1.5x250 -5-

ABBR	CABLE
BK	Black
BU	Blue
BN	Brown
RD	Red
WH	White
GY	Grey
GNYE	Yellow-green
GN	Green

## ELECTRICAL SYSTEM DIAGRAM – 94480- 2200W



POS	COMPONENT NAMES
1	Cut-out 10A
2	Operating switch 16A
4	Noise filter
5	Operating condenser 60 $\mu$ F
6	Start condenser 120 $\mu$ F
7	Klixon
8	230V motor
9	Plug 16A

POS	CABLE NAMES
1	Cable 3x1.5x15 metres + Schuko plug -1-
2	Cable 3x1.5x1680 -2-
3	Brown cable 1.5x150 -3-
4	2 white cables 1.5x250 -4-
5	2 black cables 1.5x250 -5-

ABBR	CABLE
BK	Black
BU	Blue
BN	Brown
RD	Red
WH	White
GY	Grey
GNYE	Yellow-green
GN	Green

EC DECLARATION OF CONFORMITY

The undersigned company:  
**ROMUS**  
Z.A. Les Pouards - 13 et 15 rue Taillefer  
91160 CHAMPLAN – FRANCE  
declares under its sole responsibility that the products

**SINGLE-DISC MACHINES 94451 – 94476 1800W -94480 - 2200W**

comply with the requirements of the following Directives:

- 2006/42/EC: Machinery Directive
- 2006/95/EC: Low Voltage Directive
- 2004/108/EC: Electromagnetic Compatibility Directive

They also comply with the following standards:

- EN 60335-1: Household and similar electrical appliances - Safety. Part 1: Generic norms
- EN 60335-2-67: Household and similar electrical appliances. Part 2: Specific norms 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 - Regulations for product family.
- EN 55014-2: Electromagnetic compatibility - Regulations for household appliances, electrical devices and similar equipment. Part 2: Immunity - Regulations for product family.
- EN 61000-3-2: Electromagnetic compatibility (EMC) - Part 3-2: Limits – Limits for harmonic current emissions (Equipment with input current  $\leq 16$  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  $\leq 16$  A.
- EN 62233: Household and similar electrical appliances - Electromagnetic fields Methods for evaluation and measurement

The person authorised to compile the technical file:

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Champlan, 02/11/2013

**ROMUS**  
Legal representative