

## **Operating manual** (Translation of the original version)



## **Battery-operated suction sweeper KSE 910**

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# 1 Introduction

This operating manual contains instructions for using the hand-operated sweeper.

Our products are subject to continuous improvement. Therefore, design changes that were made after this manual went to print could not be incorporated. If you have any questions, please contact our Service department.

The operating manual must be read and applied by all persons who operate the sweeper.

Apart from the operating manual and the regulations for accident prevention applicable in the country of use and the location of use, the common, recognised rules for safe and technically correct working must also be followed.

## 1.1 Usage conformant with intended purpose

The appliance is intended exclusively for sweeping on solid surfaces (for example.: parking areas, walkways, shop floors). The area to be swept should not be wet.

The sweeper may only be used by reliable and instructed personnel. Prevent children, juveniles and other unauthorised persons from using the machine (e.g. by pulling out the key after use).

Any other use, or any use over and above that, will be considered to be non-conformant with intended purpose. The manufacturer rejects any and all liability for damage resulting from such use. The risk is that of the user alone.

Usage conformant with intended purpose also includes compliance with the operating manual and the inspection and maintenance specifications. Drive the sweeper only along expressly marked routes and spaces.

## 2 Safety information

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1. The machine should only be used in a flawless state, as well as in keeping with its intended purpose, in a safety-conscious and risk-conscious manner and in compliance with these operating instructions.
2. In addition to the operating manual, please heed general legal and other binding regulations for accident prevention and environmental protection.
3. Sweeping and picking up of flammable, toxic or explosive substances, along with flammable gases or diluted acids and solvents, burning or smouldering objects is prohibited!
4. The appliance is not suitable for picking up fluids, cables, cords, wires or the like.
5. The machine should only be used with the dust box fitted to prevent injuries caused by parts being slung out.
6. Transporting loads with the sweeper is not allowed.
7. Faults should be eliminated immediately, particularly those that could impair safety.
8. Do not make any changes, modifications or additions to the sweeper without the approval of the manufacturer.
9. Replacement parts must meet manufacturer specifications. This is always ensured by using original replacement parts.
10. Ensure that operating media, auxiliary media and replacement parts are disposed of in a safe and environmentally-friendly manner, particularly batteries!
11. Suitable non-slip footwear should be worn to avoid accidents.
12. If you have any questions, please contact our Service department.
13. Persons (including children) who are not able to use this machine safely due to their physical, sensory or mental capabilities or their inexperience or lack of knowledge may not use this machine without the supervision or instruction by a responsible person! Children should be supervised to ensure that they do not play with the appliance.
14. Caution: loose clothing can be caught and drawn in on rotating parts.
15. The operating instructions provided by the battery manufacturer relating to his product and legal specifications for the handling of accumulator batteries should be heeded!

16. Charge flat batteries directly after use and only in well-ventilated rooms.
17. Keep naked flames and electrical sparks away from the charging area, since a highly-explosive electrolytic gas mixture is generated when batteries are being charged.
18. Note that the accumulator batteries are filled with battery acid.
19. Batteries should always be kept clean and dry to avoid leakage currents! Never short-circuit battery poles!
20. Smoking, eating and drinking should be avoided in the vicinity of the battery charging station to avoid risks to health.
21. Batteries should only be charged with the hood opened and secured with the holder.

## **2.1 Safety device**

The hood switch prevents the machine from getting switched on when the hood is open and switches off the machine if it is opened during operation

### 3 Sweeper description

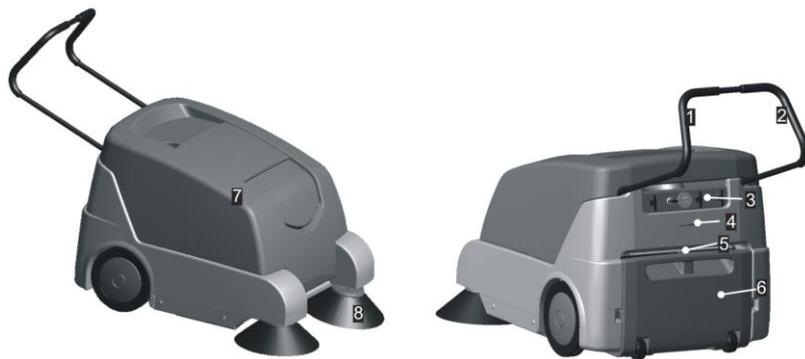
#### 3.1 Sweeper description

The suction sweeper is driven by an electric motor.

Sweeping is done with two side brushes which convey the refuse to the two sweeping rollers that are mounted at 90 degrees to the direction of motion. The rollers throw the refuse overhead in the rear dirt collector.

The dust that is collected by the sweeping rollers is kept in a lamellar filter in the machine by the dust extraction.

The lamellar filter can, in turn, be cleaned by a manually actuated filter vibrator.



- |                         |                |
|-------------------------|----------------|
| 1 driving hoop          | 6 dustbin      |
| 2 driving lever         | 7 hood         |
| 3 operating console     | 8 side brushes |
| 4 filter cleaning lever |                |
| 5 dustbin holder        |                |



- |  |
|--|
| 1 operating lever, left side brush / operating lever, right side brush |
| 2 key switches   |
| 3 operating hours counter  |
| 4 operating lever, sweeping rollers                                    |

### 3.2 Initial start-up

Ensure that the machine was supplied complete and undamaged.

In case of any objections, contact your specialist dealer or our Service department.

- Open the packaging and carefully lift the machine off the pallet.

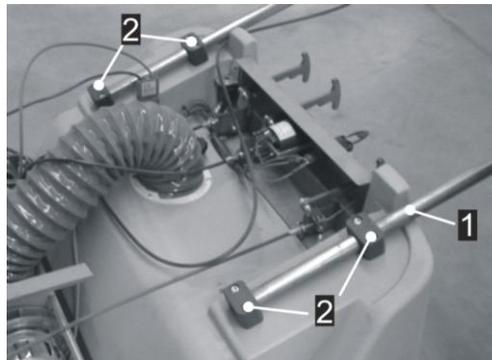
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**Reach under the frame of the machinery to lift it. There is a risk of injury if you attempt to lift the machinery by the hood, the side brush retainer, or the dustbin!**

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- Open the hood and fasten it.
- Push the driving hoop -1- into the receptacles till the cross hoop is at hip height (ergonomically correct height).
- Tighten the driving hoop screws -2-.
- Set the side brush arms to the top position and mount the side brushes.
- Connect the battery.
- Close the hood again.
- The sweeper is ready for operation.

## 4 Operation

### 4.1 Movement operation



- Insert the key in the key switch and rotate it in the clockwise direction: The electric motor starts.
- Pull the movement lever: The sweeper moves forward.

If the lever is released, the sweeper remains at standstill.

### 4.2 Sweeping operation



The height adjustment of the side brushes and the sweeping rollers is done via levers on the operating console. Each of the side brushes can be used individually.

- Start the movement operation.
- By lifting and pushing forward the corresponding lever, the side brushes and/or the sweeping rollers can be deployed in a purposeful manner.
- (Also see "Device description")



- 1 Operating lever, left side brush
- 2 Operating lever, sweeping rollerst
- 3 Operating lever, right side brush

### 4.3 Sweeping wet refuse



For sweeping wet refuse, it is recommended that the fan shutter be closed, to prevent clogging and softening of the filter.

This is how to adjust the fan shutter.

- With the machine switched off, open the hood and fasten it.
- To close the fan shutter, rotate the lever -1- to the front position.

To open the fan shutter, you must get the lever -1- into the rear position.

#### 4.4 After sweeping

Caution!



- Switch off the machine.
- Adjust the side brushes and sweeping rollers in the upper position.

**If the sweeping rollers are not set to their top position, the bristles of the side brushes will be put under permanent load in their off-position and consequently will wear prematurely when used!**

- Always empty the dustbin once you've finished sweeping.

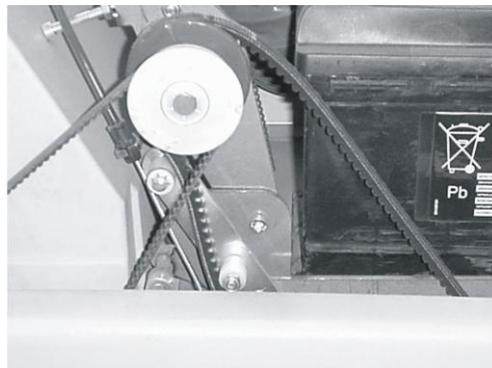
#### 4.5 Setting the traversing mechanism

The traversing mechanism can be readjusted at the adjusting screws at the handle and at the belt tensioner.

- Adjust the belt tensioner in such a way that the belt lies loosely on the handle without tension.



It should be possible to press the belt 4 cm inwards in the middle till the first resistance is felt.



#### 4.6 Parking the sweeper

- Move the machine to an area provided (assigned) for the purpose.
- The sweeper does not have any brakes.
- Therefore, secure the sweeper against rolling away (for example: wheel chocks).
- Turn the key in the anticlockwise direction to switch off the motor and pull out the key.

Caution!



**Improper handling of the suction sweeper can result in harm to persons and property!**

Prevent unauthorised usage of the suction sweeper, by:

- never leaving the suction sweeper, when it is ready for operation, unattended,
- pulling out the key of the key switch when leaving the sweeper (for example, at the end of the working day or depending on deployment),
- keeping the key separately from the sweeper.

## 4.7 Emptying the dustbin

In order to ensure proper sweeping performance, the dustbin has to be emptied at regular intervals.



- Lift the dustbin securing device -1- and pull the dustbin on the handle -2- from the frame of the machine.
- Empty the dustbin into a suitable container.
- Push the dustbin back into the machine.

Do not park the sweeper with a full dustbin.

## 5 Maintenance

### 5.1 Safety Information

Only complete the type of maintenance work described in the following chapter. All other maintenance and upkeep work may only be carried out by the manufacturer or by companies and persons authorised by the manufacturer, who are familiar with the relevant safety specifications, because portable devices in industrial use are subject to the safety test according to VDE 0701.

Closely follow the steps listed in the maintenance instructions. The improper completion of maintenance tasks may result in malfunctions when using the sweeper and may possibly render the warranty granted null and void.

When working on the electrical system, the battery should be disconnected.

Maintenance work/ troubleshooting at the electric motor must not be done while the electric motor is running.

Use only flawless and appropriate tools to complete maintenance work.

Note the requirements for spare parts.

If covers and/or safety devices were removed during maintenance work/repairs, they will have to be reattached prior to starting the sweeper.

For carrying out any work on the sweeper, it must be switched off and secured from rolling away by accident.

### 5.2 Cleaning

The suction sweeper may only be cleaned in the off state, when it is dry.

The suction sweeper is a machine with electrical components.

**WARNING**



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**Moisture damages the electronics of the device. Moisture can result in leakage currents and short-circuits.!**

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**Do not use any high-pressure cleaners**

## 5.3 Filter cleaning

Make sure the dust collector has been installed.

Move the filter cleaning lever -1- back and forth a few times.

- The filter gets cleaned as a result.
- The dust that is stripped off falls in the dustbin.



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**It is recommended to wait for a few seconds till the dustbin is emptied, till the fine dust has settled.**

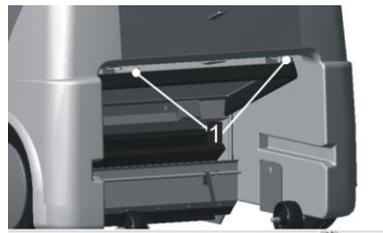
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## 5.4 Changing the filter

### 5.4.1 Dismantling the filter

- E Remove the dustbin.
- Press the filter holders –1-inwards in such a way that they point to one another.
- Take out the filter downwards



### 5.4.2 Filter mounting

- Place the filter in the filter frame and press the filter frame upwards with the hand.
- Hold the filter frame in this position.
- Rotate the filter holder outwards with the other hand.

## 5.5 Battery charging

To charge the battery, you must:

- switch off the sweeper,
- open the hood and fasten it,
- pull out the charging plug and connect to the plug of the charger,
- switch on the charger.

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**Charging the Battery is only allowed when the hood is opened and fastened. Make sure the hood is never closed during the process.**

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The charging process takes about 10 hours.

The automatic charger has a charger retention and can remain connected to the battery even for a longer time without any problems. This ensures that you always have a fully charged battery available when you start work.

Exclusively use this charge cable or you may experience trouble with the charging process or you may break the battery charger or the battery.

You must not use the sweeper if it is connected with the battery charger.

## 5.6 Side brushes

### 5.6.1 Mounting the side brushes

Hold the side brushes below the side brush arm and rotate the side brushes in such a way that the side brush clips are located below the relevant recesses.

Press the side brush upwards till it tangibly clicks into place.



### 5.6.2 Removing the Sidebrushes

Press the clips -1- below the side sweeper brushes inwards and at the same time, pull down the side sweeper brushes downwards.

## 5.7 Changing the sweeping rollers

The sweeping roller consists of two split shells with brushes.

Screws join the split shells.

### 5.7.1 Dismantling the sweeping roller

To dismantle the sweeping roller, follow the procedure below:

- Remove the dustbin.
- Dismantle the batteries.
- Press the driving hoop onto the floor till the front of the machine points upwards.
- Support the machine securely (for example: second person).
- Rotate the sweeping rollers till the threaded joints on the sweeping rollers become visible.
- Loosen and remove these threaded joints.
- Remove the sweeping roller split shells from the shaft and if required, clean the running gear box and the shaft.



### 5.7.2 Assembling the sweeping roller

The split shells of the sweeping roller have square recesses. These recesses serve for locating the sweeping roller axis.

- The two split shells must be put on the rectangular axis of the brush roller in such a way that the axis fits exactly into the recess of the split shells.
- Then, screw each set of brushes with 3 screws each, till you can no longer see a gap between the split shells

## **5.8 Maintenance chart**

### **5.8.1 Maintenance daily**

- Check the machine as to visual damages and correct operation.
- Empty the dust container.
- Check the brushes-, roller tunnel for any parts that are sticking to them or for jammed debris, which narrow the brush tunnel and restrict the free movement of the roller brushes.
- Charge the battery.
- Check the state of the dust filter, clean it if required.

### **5.8.2 In addition, after every 50 running hours**

- Check if sweeping rollers are worn or obstructed by foreign objects and replace, if necessary.
- Check sweeping contour and readjust, if necessary.
- Check if side brush adjustment is worn and readjust or replace, if necessary.

### **5.8.3 In addition, after every 100 running hours**

- Check all belts for cracks or impermissible elongation, replace if required.
- Check all bearings for wear.
- Check all seals as to damage and tightness.
- Check cable joints for firmness, replace faulty cables.
- Check the dust filter and replace if necessary.
- Check dust suction for foreign objects, and clean.

## 5.9 Malfunctions / error messages and troubleshooting

| Error  | Possible causes   | Possible remedies  |
|--|---|--|
| Engine does not work   | Key-operated switch has not been activated                                    | Turn the key in the key-operated switch                                    |
|  | Fuel tank is empty  | Fill up fuel tank  |
|  | The hood is still open  | Close the hood   |
|  | Fault in the electrical cables  | Check all the plug-and-socket joints and restore the contact               |
| Sweeping result not satisfactory                                   | Side brushes or brush rollers not lowered                                     | Lower  |
|  | Side brushes or brush rollers worn  | Readjustment and if required, replacement of the brushes                   |
|  | Trajectory clogged by dirt  | Check and clean the roller space   |
|  | Brush rollers are stuck because of dirt, cables, strings or something similar | Clean the brush rollers and roller bearings, check the bearings for damage |
|  | Side brushes are stuck because of dirt, cables, strings or something similar  | Check the side brushes and remove whatever is stuck                        |
|  | Side brushes and/or roller belts are worn                                     | Control and replacement of the belts                                       |
|  | Fault in the traversing mechanism   | Traversing mechanism not correctly set                                     |
| Traversing mechanism belt worn                                     |   | Checking and replacement of the belt                                       |
| Blockage of the driving roller or the running wheels owing to dirt |   | Remove blockage  |
| Heavy dust accumulation while sweeping                             |   | Filter heavily soiled  |
|  | Filter used up / Filter material worn   | Check and replace filter   |
|  | Filter not correctly fitted   | Correct filter position  |
|  | Leaks and result suction of impure air in the area of the filter chamber      | Check for suction of impure air  |

## 5.10 Technical Data

|                             |                     |
|-----------------------------|---------------------|
| <b>Dimension and Weight</b> |                     |
| Length                      | 1150 mm             |
| Width                       | 790 mm              |
| Height                      | 600 mm              |
| Weight                      | 105 kg              |
| <b>Sweeping Width</b>       |                     |
| Main sweeping roller        | 500 mm              |
| With Side brushes           | 900 mm              |
| Dust Container Volume       | 60 L                |
| <b>Battery</b>              |                     |
| Voltage                     | 12 V                |
| Capacity                    | 50 / 66 / 70 / 80   |
| Vibration                   | < 2m/s <sup>2</sup> |
| Noise valure                | < 76 dB(A)          |

## 5.11 Product marking

|   |
|---|
| <p><b>Suctionsweeper<br/>Tandem KSE 910</b></p> <p>Weight: 97 kg</p> <p> Stolzenberg GmbH &amp; Co. KG</p> <p>Hamburger Straße 15-17<br/>D-49124 Georgsmarienhütte</p> <p>Build in: 2007</p> <p>Serialnumber: 0607058</p> <p>Power: 0,3 KW</p> |
|---|

## 5.12 Disposal

Dispose of faulty parts, especially electrical components, batteries and plastic parts according to the locally applicable waste disposal specifications.

Used batteries must be disposed of according to Directive 2006/66/EC.

### **5.13 Accessories and spare parts**

Accessories and spare parts must conform to the requirements of the manufacturer. This is ensured by using genuine replacement parts.

### **5.14 Service**

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### **5.15 Transport**

Transport the machine only in the switched-off condition, sufficiently well fastened.

## 6 EC Declaration of conformity (Translation of the original version)

according to the EC Machine Directive 2006/42/EC, Appendix II, No. 1A

Mr. Kai Stolzenberg – Management of the Stolzenberg GmbH & Co. KG, Hamburger Straße 15-17, D-49124 Georgsmarienhütte - is authorized to arrange technical information.

**We hereby declare that the machine described below corresponds, in its conception and construction, as well as the model brought into use by us, to the basic safety and health requirements of the EC Machine Directive 2006/42/EC. In case of a change being made that has not previously been agreed with us, this declaration will lose its validity.**

|                             |   |
|-----------------------------|---|
| Manufacturer:               | Stolzenberg GmbH & Co. KG,<br>Hamburger Straße 15-17, D-49124 Georgsmarienhütte |
| Designation of the machine: | Battery-operated suction sweeper KSE 910  |
| Machine type:               | Suction sweeper with tandem-roller-system                                       |
| relevant EC Directives:     | Directive 2006/42/EC<br>Directive 2000/14/EC<br>Directive 2004/108/EC           |

**The following standards, in particular, were applied:**

EN 292  
EN 294

DIN EN 61000-6-2  
DIN EN 60335-1  
DIN EN 60335-2-69  
DIN EN 60335-2-72

Georgsmarienhütte, 10.02.2010

  
.....  
**Kai Stolzenberg**  
(Dipl. Wirtsch. Ing., Management)