

# Hako



## **Scrubmaster B5 (7150)**

### **Operating manual**

Part number 88-10-3353 - 4766-00

Valid as from: 05.2023

## Introduction

### Foreword

Dear Customer,

We are certain that the excellent qualities of the machine will justify the faith you have shown in us by your purchase.

To guarantee safe working with the machine, please read the Safety Notes chapter before putting it into service.

Your own safety, as well as the safety of others, depends essentially on your ability to control the machine. Please read this **original operating manual** before you use the machine for the first time, act accordingly and keep it for future reference or subsequent users. The operating manual contains all important information for operation, maintenance and servicing. We have provided the places in this operating manual concerning your safety with a danger pictogram. Your authorised Hako dealer is available at all times to answer further questions about the machine or the operating manual.

We would expressly advise you that no legal claims may be asserted based on the contents of this operating manual. In the case of necessary repair work, please make sure that only original spare parts are used. Spare parts must be original spare parts to guarantee safety. We reserve the right to make changes in the interests of further technical development.

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**Intended use**

The Scrubmaster B5 is a scrubber-drier for the wet cleaning of hard indoor floor surfaces. This machine is intended for commercial use, for example in shops, hotels and schools, as well as confined areas such as kitchens and sanitary facilities. Any use extending beyond this is not intended use. The manufacturer is not liable for any damage resulting from this and the user alone bears the risk. Intended use also includes compliance with the operating, maintenance and servicing conditions specified by the manufacturer.

The Scrubmaster B5 may be used, maintained and repaired only by persons who are familiar with this work and instructed about the dangers.

The relevant accident prevention regulations as well as the other generally recognised safety engineering and occupational medical rules must be complied with.

The machine corresponds by virtue of its design and construction as well as in the version distributed by us to the usual health and safety requirements of the EC Directives (see Declaration of Conformity). This declaration loses its validity in the event of a modification to the machine not authorised by us. The manufacturer is not deemed liable for any damage resulting from unauthorised modifications to the machine.

**Notes on warranty**

The terms defined in the purchase agreement apply. Claims for compensation in relation to damage are excluded from the terms of the warranty when the damage is the result of the failure to observe rules concerning servicing and maintenance. Maintenance work must be carried out by an authorised Hako service workshop and confirmed in the "Maintenance Report", which serves as a warranty logbook.

The following are excluded from the terms of warranty: wear and tear through overuse, defective fuses, improper handling and use and unauthorised modifications. Claims under the terms of the warranty are also annulled when damage occurs to the machine resulting from the use of parts or accessories not explicitly approved of by us or from failure to observe maintenance rules.

**Acceptance of the machine**

Inspect the machine immediately on delivery for signs of transport damage. You will be compensated for transport damage provided you immediately have the damage confirmed by the transport company and send in the damage report together with the consignment note to us.

**Machine data**

Your machine is described clearly by the following data. Please always quote these data in correspondence or when making a telephone query to your authorised Hako dealer or our company.

- Machine type: \_\_\_\_\_
- Manufacturing no.: \_\_\_\_\_
- Start-up on: \_\_\_\_\_

**Your nearest authorised Hako dealer:**

- Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- Telephone: \_\_\_\_\_

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# 1 Safety instructions

## 1.1 Warning and danger symbols

Important tasks concerning the safety of the operator and machine are named as follows in this operating manual and emphasised by symbols.

**Danger**

Indication of a direct danger with high risk, in which death or severe physical injury can occur if it is not avoided.

**Warning**

Indication of a possible danger with average risk, in which death or severe physical injury can occur if it is not avoided.

**Caution**

Indication of a danger with low risk, in which light to medium severe physical injury or material damage can occur if it is not avoided.

**Attention**

Attention indicates a hazard that can lead to technical damage when not observed.

**Environmental danger**

Environmental danger due to the use of substances from which a health and environmental risk proceeds.

**Note**

Indication of information that facilitates more effective and economical use of the machine.

### 1.2 General safety instructions



#### Note

Before starting up the machine, read the following safety instructions and act accordingly. Machine operating errors can be avoided and trouble-free operation can be guaranteed only with precise factual knowledge.

- Before starting up the machine, please carefully read the operating manual you receive as well as further separate instructions for additional implementations or attachments and observe them in all aspects of your work.
- The machine may be used, maintained and repaired only by persons who have been instructed by Hako experts.
- The machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or by persons lacking the required experience and knowledge.
- The operating manual should always be available at the machine's place of use and should therefore be stored with the machine.  
The short instructions do not replace this operating manual and are only to be understood as instructions for use.
- Please hand over these documents to the new owner/operator on sale or rental of the device. Have the hand-over confirmed!
- The labels attached to the machine provide important information for safe operation. Renew labels that are no longer legible or present.
- With Hako-AntiBac® machine variants, the plastic inner surface of the solution and waste water tanks contains silver ions in nanoparticle form.
- Spare parts must be original spare parts to guarantee safety.

### 1.3 Operating safety instructions

#### Before putting into service

- Before initially starting up the machine, charge the used battery fully and appropriately with commissioning charge. Please observe the operating manual of the charger and the operating manual of the battery manufacturer, which are enclosed with each Li-Ion battery. Hako assumes no liability for battery damage resulting from insufficient commissioning charge.
- Check the machine for operating safety before every start-up! Eliminate faults immediately.
- Before starting work, the operator must familiarise themselves with all the equipment, controls and actuating elements as well as with their function!



## **During operation**

- Sturdy and slip-proof shoes must be worn when working with the machine.
- Only those surfaces approved by the contractor or its authorised representative for use of the machine may be cleaned.
- When working with the machine, pay special attention to third persons, especially children.
- When driving over thresholds up to 1 cm high, pull the machine over the threshold in transport position. For thresholds over 1 cm high, lift the machine by the handle loop and place it over the threshold.
- Only use detergents suitable for automatic machines (foam retarded) and observe the application, disposal and warning instructions provided by the detergent manufacturer.
- The machine is not suitable for removing liquids, dusts or materials that are dangerous to health, combustible or explosive. It is also prohibited to collect burning objects, e.g. glowing cigarettes. The collection of dry wood dust, e.g. beech and oak dust, is also prohibited – health hazard!
- The machine must not be used in potentially explosive atmospheres.
- Warning! The machine should only be used on level surfaces with a maximum slope of 2 %.
- Manipulating the switches and protective devices is forbidden.

## **1.4 Maintenance instructions**

- Daily and weekly maintenance work must be done in accordance with the maintenance plan by the operating staff. In all other maintenance work, please contact your nearest Hako service centre.
- The maintenance work and maintenance intervals specified in the operating manual must be complied with.
- Use suitable tools for the cleaning and maintenance work.
- Have the machine checked for safe condition by an expert in accordance with the accident prevention regulations at appropriate intervals (we recommend at least once yearly).
- Spare parts must at least comply with the technical requirements specified by the manufacturer. This is guaranteed by original spare parts.
- Turn the machine off for cleaning and maintaining the machine as well as before replacing parts.
- Cleaning the machine with a high-pressure cleaner or steam jet is not allowed.
- Application of aggressive and corrosive detergents is not allowed.

## **1.5 Information about special risks**

### **Magnets**

There is a magnet in the area of the solution tank and the waste water tank. Warning! Magnets can affect the function of pacemakers and implanted defibrillators.

- If you have such a device, keep a minimum distance of 80 mm to the magnet.
- Warn people with a pacemaker and implanted defibrillator not to approach magnets.

Caution! Magnets generate a far-reaching, strong magnetic field that can damage credit cards, debit cards, mechanical watches and hearing aids.

- Keep objects that can be damaged by strong magnetic fields away from the magnet.

### **Electrical system**



- If the electrical system is faulty, always turn off the machine and eliminate the fault.
- Work on the electrical system may be done only in accordance with electrical engineering standards by a specialist trained for this work.
- Regularly inspect/check the electrical system of the machine. Defects such as loose connections, loose nuts of electrified bolts, electrical components or damaged cables must be eliminated immediately.
- Only use original fuses with the specified current. If stronger fuses are used, the electrical system can be destroyed and there can be fires.

## **Batteries**

- Observe the operating manuals and safety instructions provided by the battery manufacturer! The operating manual is enclosed with the battery.
- Only use the Hako charger supplied to charge the battery.
- Make sure that the batteries are never fully discharged; recharge them as quickly as possible.
- Only instructed operating staff must handle and change batteries.
- Risk of explosion! Do not heat up the battery or place it in a fire.
- Do not drop or damage the battery.
- Caution! Always make sure that the batteries are clean and dry to avoid creeping currents. Protect the batteries, in particular, against conductive contamination, e.g. metal dust.
- Risk of short circuits and spark formation! Do not touch the battery terminals with metal objects and do not insert metal objects through openings in the battery!
- Risk of short circuit! During storage, keep the battery away from metal objects such as paper clips, coins, nails or similar.
- If liquid escapes from the battery or there is a strange smell, remove the battery from all heat sources or flames! There is a risk of fire or breakage if the escaping liquid or gas ignites.
- Keep the battery out of the reach of children.
- For further safety instructions, see Hako supplementary sheet 88-60-2556 – information for drive batteries.

## 1.6 Environmental protection instructions and disposal

If the end of use of the machine or of its components is reached and this is handed over for scrapping, the components must be correctly disposed of. Further information about disposal is available through the competent local authorities and the authorised Hako dealers.

	Do not dispose of products with this symbol in domestic waste. Disposal takes place through local collecting points or the manufacturer.
	Recycle used materials with this symbol according to their labelling and do not dispose of them in domestic waste.

- Observe the applicable laws and local regulations when disposing of dirt, waste water and detergents.
- Used batteries with the recycling symbol contain reusable commodities. In accordance with the symbol showing the crossed-out garbage bin, these batteries must not be disposed of in the domestic waste. Return and recycling have to be arranged with the authorised Hako dealer!
- Observe the local regulations when disposing of the AntiBac® tanks, e.g. take the AntiBac® tanks to a suitable disposal site or incineration plant.

## 1.7 Labels on the machine

The following safety and instruction labels are affixed to the machine in a clearly visible and legible manner. Renew missing or illegible labels promptly!



Fig. 1

**Hako company logo**

The Hako company logo **Fig. 1-A** is located on the front of the waste water tank.

**Label: Machine type:**

The label **Fig. 1-B** is located on both sides underneath the solution tank.

**Type plate**

The type plate **Fig. 1-C** is located above the solution tank.

**Label:**

- **Read and observe the operating manual Fig. 1-D1**
- **Never clean the machine with a high-pressure cleaner Fig. 1-D2**
- **Maximum permissible slope 2 % when cleaning Fig. 1-D3**

The label is located on the electronics cover.

**Label: QR code**

The label **Fig. 1-E** is located on the container holder.

**Label: AGR**

The label **Fig. 1-F** is located on the tank cap.

**Printing – Do not dispose of AntiBac® tanks in the domestic waste – observe the information stipulated in the operating manual!**

The printing is located on the AntiBac® tanks.

**Label: Magnets**

Magnets can affect the function of pacemakers and implanted defibrillators.

The label is located under the magnet on the chassis.

## 2 Use

### 2.1 Overviews

#### 2.1.1 Front and rear view



Fig. 2

Item	Designation
1	Operating handle
2	Bar

3	Tank cap
4	Waste water tank with handle
5	Handle loop
6	Battery
7	Cleaning tools
8	Rotary lock of operating bar
9	Locking bolt of tank locking device
10	Solution tank
11	Squeegee
12	Stand for park position
13	Suction turbine hose
14	Waste water suction hose
15	Level indicator for waste water tank



## 2.1.2 Control panel

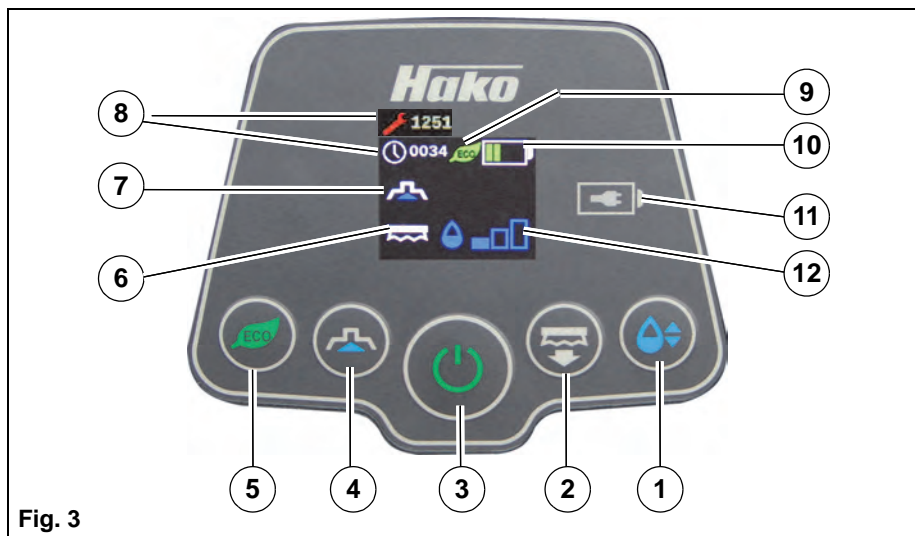


Fig. 3

Item	Designation
1	Button – fresh water dosing
2	Button – drive of the cleaning tools
3	Button – ON/OFF
4	Button – suction turbine
5	Button – ECO mode
6	Symbol – drive of the cleaning tools
7	Symbol – suction turbine
8	Indicator – operating hours meter / service code
9	Symbol – ECO mode
10	Indicator – battery charging state
11	No function
12	Indicator – water quantity

## 2.2 Controls and display elements

### 2.2.1 Control panel

The individual functions of the buttons on the control panel are described below. The respective active functions are visible as corresponding symbols in white on the display panel. If the symbols are shown in yellow, the functions are in standby mode.



#### ON/OFF button Fig. 3-3

The machine is turned on and off with this button.

- Press the button for approx. 3 seconds: The machine is turned on.

##### Note

If the machine is not operated immediately, it goes into *Machine lock* mode after approx. 10 seconds. The *Lock* symbol appears on the display panel. Briefly press the ON/OFF button again to deactivate the machine lock.

- Press the button briefly: The suction turbine is switched on and off. After unlocking the operating bar, the drive of the cleaning tools and the water supply start.

##### Note

After switching off, the suction turbine continues to run for approx. 10 seconds to absorb residual water.

- Press the button for approx. 3 seconds: The machine is turned off.



#### Suction turbine button Fig. 3-4

The suction turbine is switched on and off irrespective of the drive of the cleaning tools with this button.



### ECO mode button Fig. 3-5

ECO mode is switched on and off with this button.

After turning on the machine, ECO mode starts automatically.

If ECO mode is switched off, the speed of the cleaning tools increases.



### Cleaning tools button Fig. 3-2

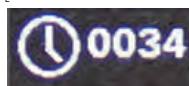
The drive of the cleaning tools is switched on and off with this button.



### Fresh water dosing button Fig. 3-1

The fresh water quantity can be set or switched off in three levels with this button.

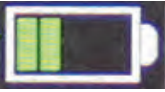
Push the button to increase the water quantity by one level. After reaching level 3, push the button again to deactivate the water supply. Pushing the button again activates the water supply with the lowest water quantity (level 1).



### Operating hours meter / Service code indicator Fig. 3-8

The current status of the operating hours is displayed.

If a service case occurs, the red spanner appears with a four-digit service code, see section 5.8.

**Charging state indicator Fig. 3-10**

The charging state of the battery is indicated on the display panel during operation. The number of bars shown indicates the charging state:

- Five green bars visible: Battery is 100 % charged.
- Four green bars visible: Battery is approx. 80 % charged.
- Three green bars visible: Battery is approx. 60 % charged.
- Two green bars visible: Battery is approx. 40 % charged.
- One green bar visible: Battery is approx. 20 % charged.
- One yellow bar visible: Machine can only be operated for approx. 2 minutes.

Charge the battery immediately!

- One red bar visible: Battery is empty. All functions are switched off.

## 2.2.2 Controls at the machine



Fig. 4

### Rotary lock of operating bar Fig. 4-1

The operating bar is unlocked by turning the rotary lock to the right and can be brought into the working position. At the same time, the drive of the cleaning tools and the water supply will start.

### Locking bolt of tank cap Fig. 4-2

By pulling the locking bolt and simultaneously raising the tank cap **Fig. 4-3**, the waste water tank and the solution tank can be easily removed.

### Foot lever of squeegee Fig. 4-4

The foot lever is used to raise the squeegee.

### Footrest of squeegee Fig. 4-5

The footrest is used to lower the squeegee.

### Handle loop Fig. 4-6

The handle loop is used to carry the machine.

## 2.3 General principle of operation

In cleaning mode, the cleaning solution is supplied from the solution tank to the cleaning tools. When the machine is moving forwards, the loosened dirt is absorbed by the squeegee with the help of the cleaning solution and conveyed into the waste water tank.

### 2.3.1 Driving with the Delta Cleaning system

Due to the intensive movements of the cleaning tools, influenced by ECO mode or no ECO mode, the machine guided by the operator glides over the floor. The operator determines the driving speed and guides the machine in the desired direction. Driving forwards and reversing as well as vacuuming are possible, see Fig. 5.



#### Note

The pairing of cleaning tool (brush or pads) and floor, as well as ECO mode or no ECO mode impacts the driving speed.

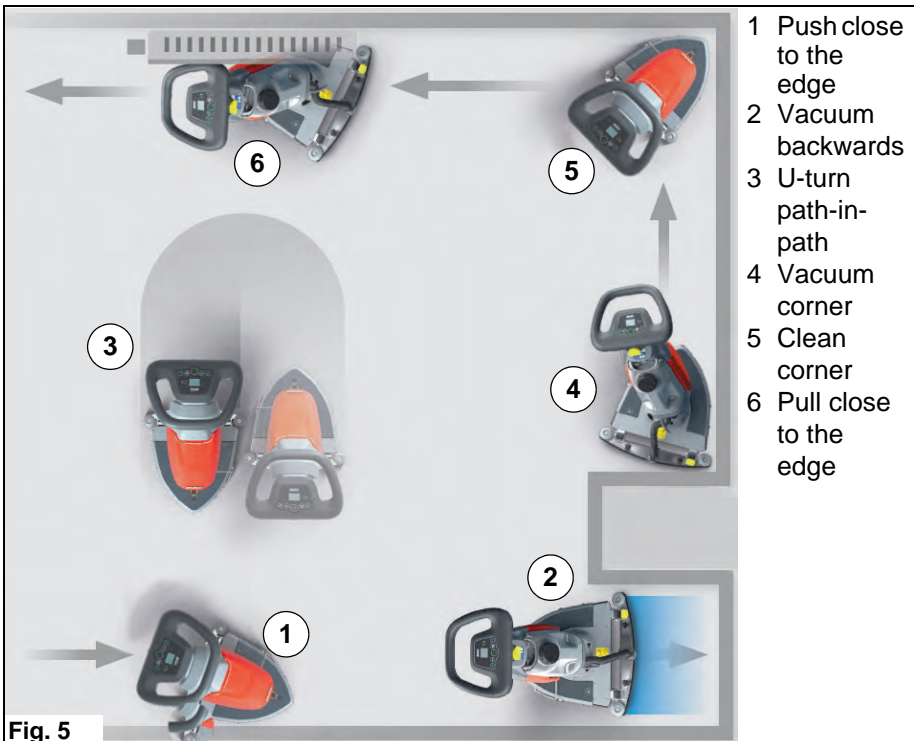


Fig. 5

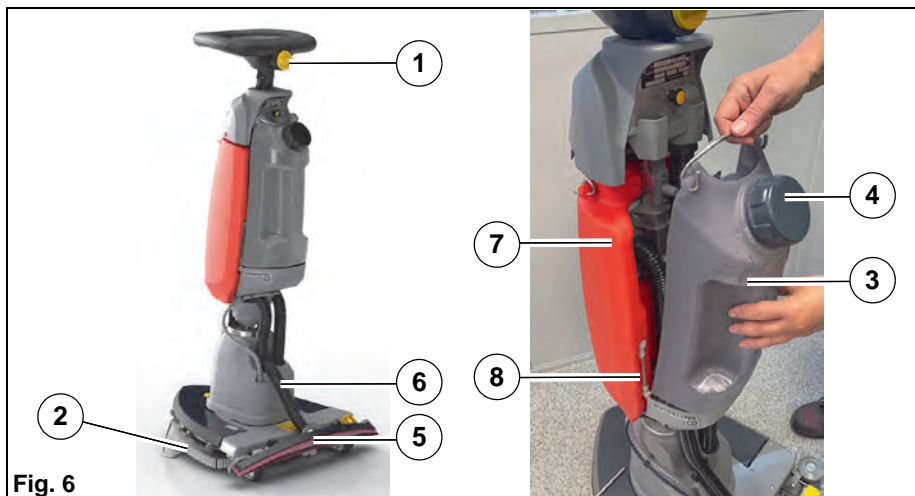


Fig. 6

### 2.3.2 Cleaning head

The drive of the cleaning tools and the water supply are switched on by actuating the rotary lock **Fig. 6-1**. The floor is cleaned by the intensive movements of the brushes/pads **Fig. 6-2** and the supply of cleaning solution. Switching off ECO mode increases the cleaning effect.

### 2.3.3 Solution tank

The solution tank **Fig. 6-3** has a capacity of 5 litres and is filled via the filling opening in the solution tank **Fig. 6-4** at a sink.

### 2.3.4 Squeegee

The squeegee **Fig. 6-5** withdraws the waste water from the floor using the sealing strips. The suction turbine vacuums the waste water from the floor.

### 2.3.5 Waste water tank

The vacuumed waste water is conveyed via a suction hose **Fig. 6-6** from the squeegee into the waste water tank **Fig. 6-7**. The level can be determined via the transparent hose **Fig. 6-8**.

## 3 Operation

### 3.1 Initially starting up the machine



#### Attention

- Before initially starting up the machine, charge the used batteries fully and appropriately with commissioning charge. Hako assumes no liability for battery damage resulting from insufficient commissioning charge.
- Check the machine for operating safety before every start-up! Eliminate faults immediately.
- Before starting work, operators must familiarise themselves with all equipment, operating and actuating elements as well as with their function!

### 3.2 Initial machine start-up

1. Install the cleaning tools and squeegee, see chapter Maintenance.
2. Always carry out a commissioning charge of the battery before first use.
3. Fill the solution tank and add detergent according to the manufacturer's specifications, see section 3.3.1.

### 3.3 Daily start-up

1. Check the parking area for signs of leaks. Cables and tanks must not show any sign of leaks or damage.
2. Check the cleaning tools for coarse parts, remove them if necessary.
3. Check the battery charge and recharge it as required, see chapter Maintenance.
4. Fill the solution tank and add detergent according to the manufacturer's specifications, see section 3.3.1.
5. Empty the waste water tank if necessary.

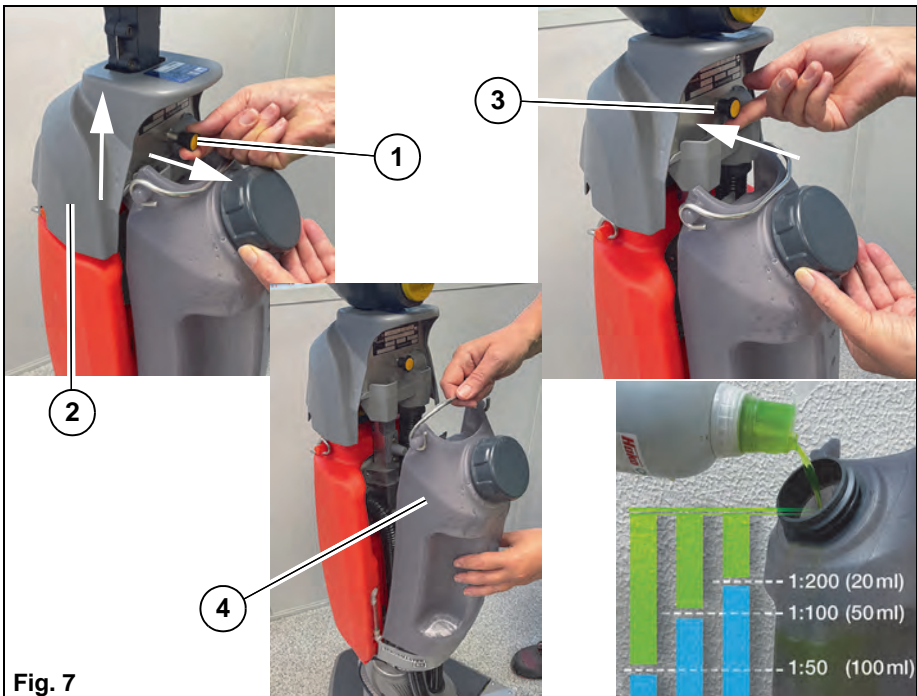


### 3.3.1 Filling the solution tank



#### Note

- Only use detergents suitable for automatic machines (foam retarded). We recommend use of our cleaning and care agents specifically developed for the machine. These products meet the requirements of the German Detergent and Cleaning Agent Act (WRMG).
- Observe correct dosing of the detergent. Correct dosing saves money and protects the environment. Strong foam formation is a sign of excessive dosing and impairs machine operation.
- Whenever the solution tank is filled, also empty the waste water tank. This ensures that the waste water tank can never become too full.



**Fig. 7**

Fill the solution tank before commencing work or as required.

1. Place the machine on a level surface and turn it off.

2. Unlock the tank cap:  
Pull out the locking bolt **Fig. 7-1**, push the tank cap **Fig. 7-2** upwards and release the locking bolt **Fig. 7-3**.
3. Tilt the solution tank **Fig. 7-4** to the rear and remove it.
4. Fill the solution tank three-quarters full (maximum water temperature 50 °C).
5. Add detergent to the tank according to the manufacturer's specifications (see table).
6. Fill the tank with fresh water up to the maximum mark.
7. The solution tank is inserted in the reverse order.

### 3.4 Cleaning

1. Fold up the stand for the park position.
2. Lower the squeegee onto the ground with the footrest.
3. Press the ON/OFF button for approx. 3 seconds.  
The machine is ready for use.  
Press the ON/OFF button again briefly.  
The suction function is switched on.
4. Hold the operating handle with one hand and release the rotary lock with the other.  
The operating bar is unlocked and can be moved into the working position.  
At the same time, the drive of the cleaning tools and the water supply will switch on.
5. Adjust the fresh water quantity with the button on the control panel.
6. For more cleaning performance, switch off ECO mode.
7. Push the machine in the desired direction.

### 3.4.1 Suction only



**Fig. 8**

If only water is to be sucked up with the machine, proceed as follows:

1. Fold up the stand for the park position.
2. Lower the squeegee onto the ground with the footrest.
3. Press the ON/OFF button for approx. 3 seconds.  
The machine is ready for use.  
Press the ON/OFF button again briefly.  
The suction function is switched on.
4. Tilt the machine a little to the rear **Fig. 8** and suck up the water.

### 3.5 Turning off the machine

1. Move the operating bar to the vertical position and lock it with the rotary lock.  
The drive of the cleaning tools and the water supply are switched off.
2. Press the ON/OFF button for approx. 3 seconds.  
The suction continues to run for approx. 10 seconds to allow residual water to be sucked up. After that, the machine is turned off.

### 3.6 After cleaning



**Environmental danger**

Observe the applicable laws and local regulations when disposing of detergents.



**Attention!**

Do not use a high-pressure cleaner or steam cleaner to clean the machine.



**Fig. 9**

1. Drive to a suitable maintenance location.
2. Turn off the machine.
3. Carry out all the prescribed daily or weekly maintenance work, see section 5.3.
4. Push the tank cap upwards.
5. Fold up the squeegee **Fig. 9-1**.
6. Fold down the stand **Fig. 9-2**.
7. Park the machine in the park position in a dry indoor location, with the solution tank cap and the waste water tank cap open **Fig. 9-3/4**.

### 3.7 Loading and transporting



#### Attention

- Risk of skidding! Take extra care on wet ramps.
- Risk of leakage! The suction turbine may be damaged. Empty the solution tank and the waste water tank before transporting the machine!



#### Note

Remove empty tanks and the battery before transporting the machine to reduce the weight of the machine.



1

**Fig. 10**

Use the handle loop **Fig. 10-1** to transport the machine. When transported in a vehicle or trailer, the machine must be fully and firmly secured with tension belts against tilting and rolling away.

## 4 Technical data

<b>Dimensions</b>		
Length of machine (bar park position/working position)	mm	600/760
Width of machine (without/with squeegee)	mm	485/560
Height of machine (bar park position/working position)	mm	1165/1100
<b>Working width</b>		
Cleaning head	mm	430
Squeegee	mm	560
<b>Sweeping capacity</b>		
Theoretical sweeping capacity	m <sup>2</sup> /h	900
<b>Weights</b>		
Weight (empty, with Li-Ion battery)	kg	22
Total weight (ready for use with Li-Ion battery)	kg	27
<b>Tank contents</b>		
Solution tank	Litre	5
Waste water tank	Litre	5
<b>Cleaning tools</b>		
Speed of cleaning tools (ECO/Standard)	rpm	1410/1820
Pressure of cleaning tools (working position)	kg	24
<b>Electrical system</b>		
Nominal voltage	V	24
Nominal output (max.) (P1)	W	532
Power consumption suction turbine (P1)	W	260
Power consumption drive of cleaning tools (P1)	W	252
Type of protection		IP X3
<b>Charger (external)</b>		
Nominal voltage	V	100...240
Nominal output	W	300

Protection class		2
<b>Battery</b>		
Lithium-ion battery 25.2 V 12.8 Ah 322 Wh		

**Noise emission value**

		Standard operation	ECO mode
The sound power level ( $L_{wAd}$ ) measured under the customary conditions of use according to DIN EN 60335-2-72 is:	dB (A)	83	82
The sound pressure level ( $L_{pA}$ ) (at the ear of the driver) measured under the customary conditions of use according to DIN EN 60335-2-72 is:	dB (A)	69	68
Measuring uncertainty ( $K_{pA}$ )	dB (A)	2	2

**Vibration**

Under the customary conditions of use, the weighted effective value of the acceleration to which the upper limbs (hand-arm) are subjected to according to DIN EN ISO 5349 is:	$m/s^2$	$\leq 2.5$
Under the customary conditions of use, the weighted effective value of the acceleration to which the body (feet or seat surface) is subjected to DIN EN ISO 2631-1 is:	$m/s^2$	$\leq 2.5$

## 5 Maintenance and servicing



### Attention

Before undertaking servicing and maintenance work, read and observe the safety instructions in chapter 1 of this operating manual!

Daily and weekly maintenance and repair work can be undertaken by an operator trained for this purpose. For all other maintenance work, please contact your nearest Hako service workshop or your authorised Hako dealer.

All warranty claims become void in the event of damage resulting from non-compliance with this manual.

Please always state the serial number in all enquiries and spare parts orders, see section 1.7 – Type plate.

### 5.1 Hako system maintenance

The Hako system maintenance specifies in single modules the special technical work to be done and the periods of time for the maintenance activities.

Parts to be replaced for the individual maintenance tasks are determined.

Hako system maintenance:

- assures the reliable readiness for use of the Hako cleaning machines (preventive maintenance),
- minimises operating costs, repair costs, costs for maintenance,
- assures long life and readiness for use of the machine.

#### Hako system maintenance by the customer

Performance by the customer by reference to the daily/weekly maintenance plan.

#### Hako system maintenance I (every 250 hours or once a year)

Performance by an expert of an authorised Hako workshop by reference to the machine-specific system maintenance.

#### Hako system maintenance II (every 500 hours)

Performance by an expert of an authorised Hako workshop by reference to the machine-specific system maintenance.

#### Hako system maintenance III (every 750 hours)

Performance by an expert of an authorised Hako workshop by reference to the machine-specific system maintenance at least once a year.



## 5.2 Maintenance certificate

<p style="text-align: center;"><b>Handover</b></p> <p>Handover to customer Instruction</p> <p>performed on: at _____ operating hours</p>	<p style="text-align: center;"><b>Hako system maintenance I</b> <b>250 operating hours</b> Workshop stamp</p> <p>performed on: at _____ operating hours</p>
<p style="text-align: center;"><b>Hako system maintenance II</b> <b>500 operating hours</b> Workshop stamp</p> <p>performed on: at _____ operating hours</p>	<p style="text-align: center;"><b>Hako system maintenance III</b> <b>750 operating hours</b> Workshop stamp</p> <p>performed on: at _____ operating hours</p>
<p style="text-align: center;"><b>Hako system maintenance II</b> <b>1000 operating hours</b> Workshop stamp</p> <p>performed on: at _____ operating hours</p>	<p style="text-align: center;"><b>Hako system maintenance I</b> <b>1250 operating hours</b> Workshop stamp</p> <p>performed on: at _____ operating hours</p>

### 5.3 Maintenance plan

#### Hako system maintenance by the customer

<b>Activity / interval</b>
<b>Daily</b>
<ul style="list-style-type: none"><li>• Empty the waste water tank; clean the waste water tank and the sieve insert</li></ul>
<ul style="list-style-type: none"><li>• Clean the solution tank and check the fresh water filter for contamination</li></ul>
<ul style="list-style-type: none"><li>• Clean the cleaning tools</li></ul>
<ul style="list-style-type: none"><li>• Clean the squeegee</li></ul>
<ul style="list-style-type: none"><li>• Charge the battery</li></ul>
<b>Weekly</b>
<ul style="list-style-type: none"><li>• Clean the fresh water filter</li></ul>
<ul style="list-style-type: none"><li>• Check the brushes/pads for wear, replace if necessary</li></ul>
<ul style="list-style-type: none"><li>• Clean the waste water suction hose</li></ul>
<ul style="list-style-type: none"><li>• Check the suction hoses for tight fit and correct sealing</li></ul>
<ul style="list-style-type: none"><li>• Check the sealing strips at the squeegee for wear, turn or replace if necessary</li></ul>
<ul style="list-style-type: none"><li>• Check the cleaning tools for low-noise running</li><li>• Check the snap-in hooks of the cleaning tools</li></ul>
<ul style="list-style-type: none"><li>• Visually inspect the operating bar joint</li></ul>
<ul style="list-style-type: none"><li>• Clean the machine as required</li></ul>

**Hako system maintenance I**

<b>Every 250 hours or once a year</b>
<ul style="list-style-type: none"> <li>• Check proper functioning of the battery and charger</li> </ul>
<ul style="list-style-type: none"> <li>• Check the latching function of the battery</li> </ul>
<ul style="list-style-type: none"> <li>• Check the software versions, update if necessary</li> </ul>
<ul style="list-style-type: none"> <li>• Check leak tightness and proper functioning of the hoses (fresh and waste water, suction turbine hose), replace if necessary</li> </ul>
<ul style="list-style-type: none"> <li>• Waste water tank: Check the seal at the top of the sieve and the seal at the waste water inlet</li> </ul>
<ul style="list-style-type: none"> <li>• Check proper functioning of the suction turbine</li> </ul>
<ul style="list-style-type: none"> <li>• Squeegee: Check the folding function and ease of movement of the squeegee, lubricate the joint locations if necessary</li> <li>• Check the supporting rollers and the rollers as well as the lateral deflecting rollers on the squeegee for ease of movement and wear, replace if necessary Attention! Do not loosen sealed screw connections of the supporting rollers on the squeegee holder!</li> </ul>
<ul style="list-style-type: none"> <li>• Check the rollers and the lateral deflecting rollers on the chassis for ease of movement and wear, replace if necessary</li> </ul>
<ul style="list-style-type: none"> <li>• Check the fresh water supply, replace worn parts if necessary</li> </ul>
<ul style="list-style-type: none"> <li>• Check proper functioning of the drive motor of the cleaning tools</li> </ul>
<ul style="list-style-type: none"> <li>• Check the rubber buffers for the drivers, replace if necessary</li> <li>• Check the outer bow springs on both drivers for cracks. Cleaning tools must run quietly and engage and disengage smoothly.</li> </ul>
<ul style="list-style-type: none"> <li>• Check proper functioning of the operating bar lock</li> <li>• Check the ball joint for smooth steering and swivelling movement</li> </ul>
<ul style="list-style-type: none"> <li>• Check proper functioning of the textile strap of the operating bar relief and the spring</li> </ul>
<ul style="list-style-type: none"> <li>• Check the optical condition of the machine (corrosion and labels)</li> </ul>
<ul style="list-style-type: none"> <li>• Carry out a function test</li> </ul>

## **Hako system maintenance II**

<b>Every 500 hours</b>
• All maintenance work according to Hako system maintenance I
• Check the suction turbine for vacuum, replace if necessary
• Check the condition and proper functioning of the drivers, replace if necessary
• Check the belt strap and the spring for damage, replace if necessary
• Check the ball joint for proper functioning and damage

## **Hako system maintenance II**

<b>Every 750 hours</b>
• All maintenance work according to Hako system maintenance I
• Replace the suction turbine

## 5.4 Solution and waste water tank

### 5.4.1 Removing the tanks



**Fig. 11**

1. Place the machine on a level surface and turn it off.
2. Unlock the tank cap:  
Pull out the locking bolt **Fig. 11-1**, push the tank locking device **Fig. 11-2** upwards and release the locking bolt.
3. Tilt the solution tank to the rear and remove it **Fig. 11-3**.
4. Tilt the waste water tank to the front and remove it **Fig. 11-4**.

## 5.4.2 Cleaning the solution and waste water tank



### Environmental danger

Observe applicable laws and local regulations when disposing of detergents!



Fig. 12

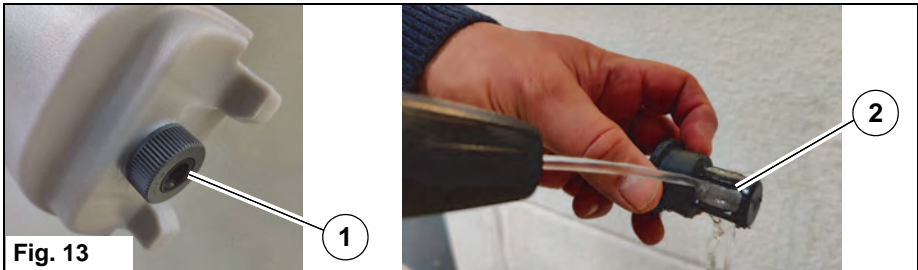
Empty and clean the tanks daily or as required.

1. Drive to a suitable disposal point.
2. Turn off the machine and remove the tanks, see section 5.4.1.
3. Empty the tanks over a drain in the floor **Fig. 12-1** and rinse them thoroughly with fresh water **Fig. 12-2**.
4. Also clean the sieve insert thoroughly **Fig. 12-3**.
5. Reinsert the tanks after cleaning and allow them to dry with the tank cap up and open, see section 3.6.

Attention!

After drying, place the sieve insert into the waste water tank and press it in fully. Ensure that the installation position is correct!

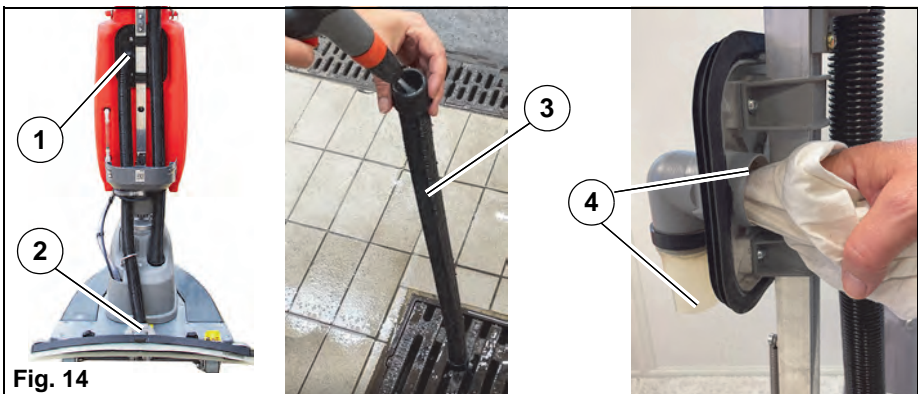
### 5.4.3 Cleaning the fresh water filter



Clean the fresh water filter in the solution tank weekly.

1. Remove the solution tank, see section 5.4.1.
2. Unscrew the screw cap on the underside of the solution tank **Fig. 13-1** and remove the fresh water filter.
3. Thoroughly clean the fresh water filter **Fig. 13-2** under running water.
4. Installation is in reverse order.  
Attention! Ensure that the filter sieve is correctly installed in the rubber plug.

### 5.4.4 Cleaning the waste water suction hose



Clean the suction hose weekly.

1. Remove the solution tank and the waste water tank, see section 5.4.1.
2. Disconnect the suction hose from the squeegee **Fig. 14-2** at the bottom and from the neck **Fig. 14-1** at the top and pull it out.
3. Rinse the suction hose thoroughly **Fig. 14-3**.
4. If necessary, remove foreign particles from the neck and clean it with a soft cloth **Fig. 14-4**.

## 5.5 Cleaning/replacing the cleaning tools

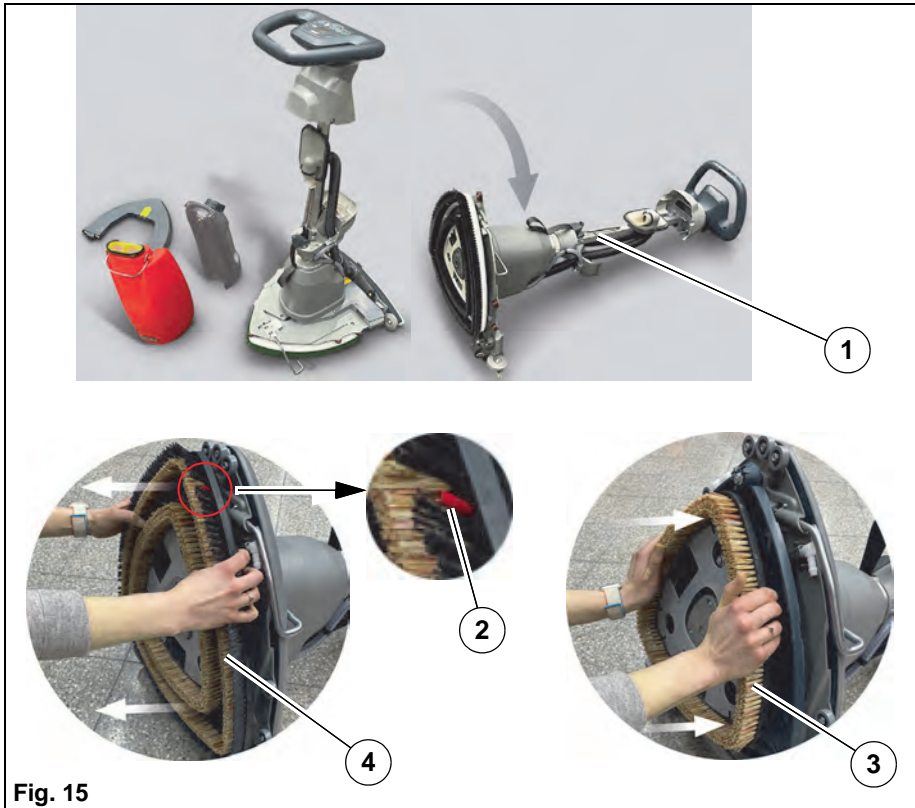


Fig. 15

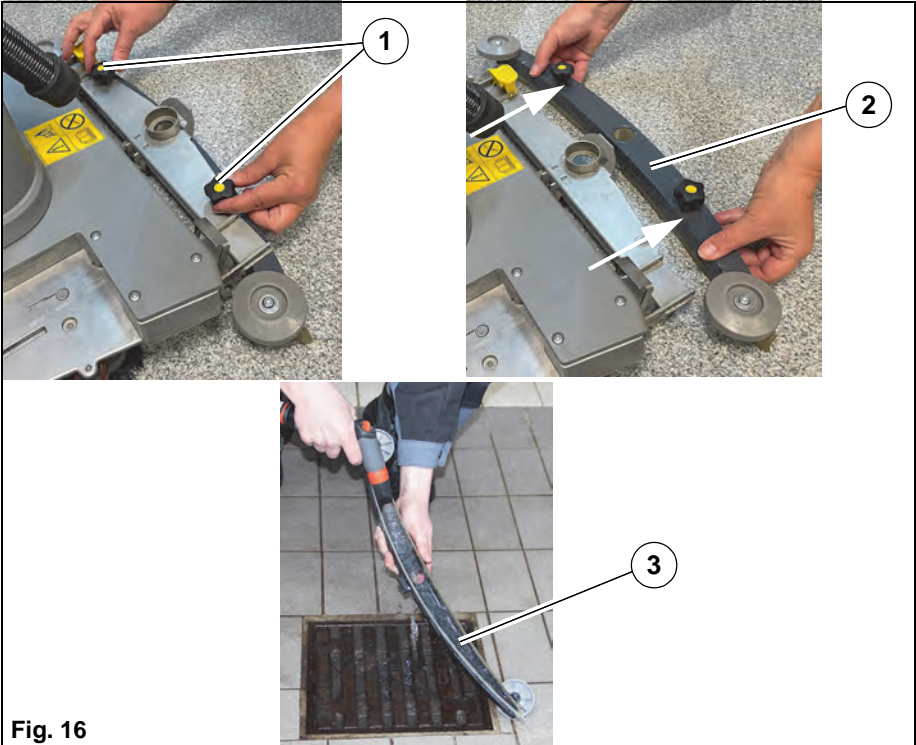
Clean the cleaning tools daily or replace them when worn. The cleaning tools must be changed when the red wear bristle has been reached **Fig. 15-2**.

1. Turn the machine off and lock the operating bar.
2. Remove the tanks, see section 5.4.1.
3. Remove the battery, see section 5.7.2 and place the machine on the floor **Fig. 15-1**.
4. First pull off the outer and then the inner cleaning tool with both hands **Fig. 15-4** and clean the tools, or replace them when worn.
5. After cleaning/replacing the tools, first press the inner and then the outer cleaning tool firmly into the holder with both hands **Fig. 15-3**.



## 5.6 Squeegee

### 5.6.1 Cleaning the squeegee



**Fig. 16**

Check the squeegee daily for soiling and foreign particles and clean it as required.

1. Turn off the machine.
2. Loosen the two star-shaped handles **Fig. 16-1** and remove the squeegee from the rear **Fig. 16-2**.
3. Clean the squeegee thoroughly with fresh water **Fig. 16-3**.
4. Re-installation is in reverse order.

## 5.6.2 Replacing the sealing strips

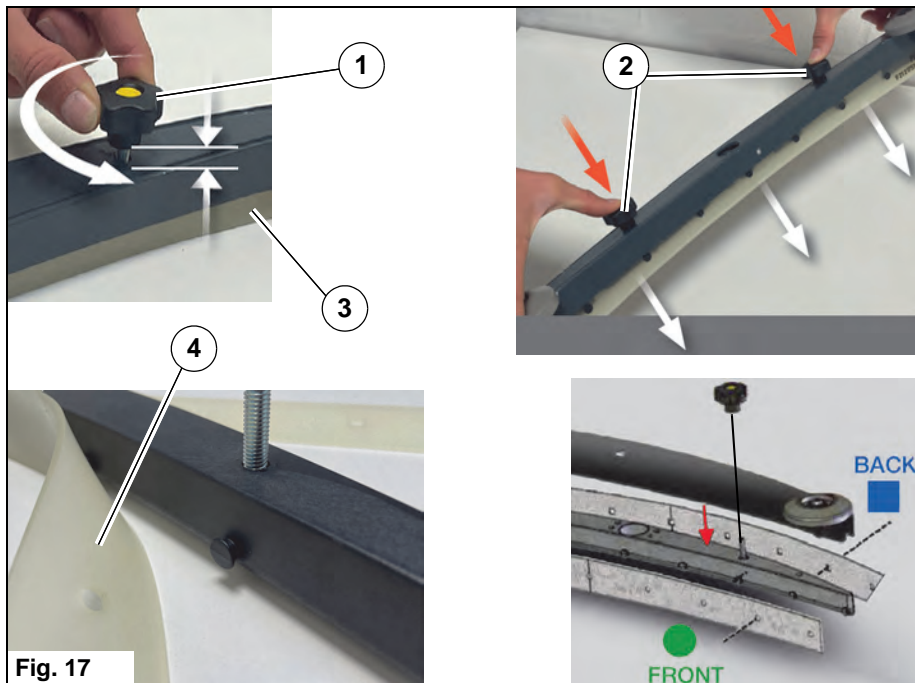


Fig. 17

Check the sealing strips at the squeegee weekly for wear and intactness. If the edge of the sealing strip is worn or damaged, turn or replace the sealing strip. Each sealing strip can be used four times before it needs replacing.

1. Remove the squeegee, see section 5.6.1.
2. Unscrew the star-shaped handles slightly **Fig. 17-1**.
3. From above, press on the slightly unscrewed star-shaped handles **Fig. 17-2** to allow the plastic body with the sealing strips to be removed more easily.
4. Unscrew both star-shaped handles and remove the plastic body with the sealing strips from the shell **Fig. 17-3**.
5. Pull the damaged sealing strip off the plastic body **Fig. 17-4**.
6. Turn the sealing strip or replace it if all four edges are worn.
7. Installation is in reverse order.

To prevent the front and rear sealing strips from being mixed up, the holders for the front sealing strip are round and for the rear sealing strip square.

## 5.7 Battery

The Scrubmaster B5 is equipped with a maintenance-free lithium-ion battery.

### 5.7.1 Checking the charging state

Fig. 18



The charging state of the battery is indicated on the display panel during operation. The number of bars shown indicates the charging state, see section 2.2.1.

### 5.7.2 Charging the batteries



#### Danger

- Danger of explosion due to short circuits and spark formation! Never insert tools or other electrically conductive objects into the contacts!

#### Attention

- Turn the machine off completely before removing the battery.
- Carefully insert and remove the battery by hand only.
- Before initially starting up the machine, charge the used batteries fully and appropriately with commissioning charge. Hako assumes no liability for battery damage resulting from insufficient commissioning charge.
- Only the supplied charger may be used to charge the battery.
- Never leave batteries discharged, always recharge them immediately.
- Do not leave the battery connected to the machine for more than one day to avoid self-discharge.



#### Note

- Always charge the batteries after each application. If the machine is not used for a longer period of time, check the charge level every 2-3 months and keep it at 3 LEDs (40-60 %). Also see the Battery User Manual.
- The charger can remain connected to the battery with or without mains voltage without the battery being discharged.
- The battery charging process can be interrupted prematurely by the operator without damaging the battery.



Fig. 19

The batteries are charged with the supplied charger. The batteries can already be charged if one segment (bar) of the charging state indicator on the control panel **Fig. 18** has gone out, at the latest, however, after the cleaning functions have been switched off (one bar flashes).

1. Place the machine on a level surface and turn it off.
2. To remove the battery, press down the yellow catch **Fig. 19-1** and pull the battery out towards the front.
3. Insert the charging plug **Fig. 19-2** of the supplied charger into the charging socket of the battery.  
Observe correct positioning of the charging plug using the white line!

4. Insert the mains plug **Fig. 19-3** into a 220 V socket.  
The charging process starts automatically.









**Note**





If all LEDs on the battery permanently light up green **Fig. 19-4**, the charging process is not yet fully completed as long as the green LED on the charger is still flashing. The battery and charger are in the recharging phase.

The charging process is only complete when the green LED on the charger lights up permanently.

5. Installation of the battery is in reverse order.  
When installing it, ensure that the battery is fully seated in the holder  
**Fig. 19-5.**

**Charging process**

LED battery indicator	Charging state	LED charger indicator	
	Red lamp flashes: < 20 %		LED flashes
	First green LED flashes: > 25 %		LED flashes
	Second green LED flashes: > 50 %		LED flashes
	Third green LED flashes: > 75 %		LED flashes

 A circular control panel with a power button in the center and a '100%' indicator. Four LEDs are lit: two green (top and bottom), and two red (left and right).	<p>All LEDs light up: Charging process not yet completed! Recharging phase!</p>	 A close-up of a green LED light that is flashing, with a starburst effect around it.	<p>LED flashes</p>
 A circular control panel with a power button in the center and a '100%' indicator. Four LEDs are lit: two green (top and bottom), and two red (left and right).	<p>Charging process completed</p>	 A close-up of a green LED light that is lit constantly.	<p>LED lights up constantly</p>

## 5.8 Service information

In case problems occur with the machine, a four-digit service code is output in the display panel in addition to the service indicator (tool key).

Eliminate the cause or note down the service code and inform your authorised Hako service partner.

If the cause has been eliminated, the fault must be acknowledged via the OFF/ON button.

Service code	Fault	Cause	Remedy
1251/ 1261	Cleaning tools stop	Foreign particles block the cleaning tools	Inspect the cleaning tools for foreign particles and remove them if necessary
		Foreign particles or an excessively rough floor activate overload protection of the electronics	Turn the machine off, wait 5 minutes if necessary and then restart it. Avoid an excessively rough floor.
	Noise development at the cleaning tool	Cleaning tool is not positioned correctly in the holder	Insert the cleaning tool correctly, contact the customer service if necessary
1463	Suction turbine stops	<ul style="list-style-type: none"> <li>• Foreign particles in the suction turbine</li> <li>• Suction turbine is damaged</li> </ul>	Contact the customer service
1591	No water supply	Water valve defective (no audible click)	Contact the customer service
		Solution tank not inserted correctly	Check whether the solution tank is positioned correctly
		Fresh water filter clogged	Clean the fresh water filter, see section 5.4.3
316E	Power level is faulty	Contacts on the battery bent	Contact the customer service
		Battery is not charged	Charge the battery

3311	Service code indicator when turning on the machine. Restart the machine to remove the service code.	Service interval expired	See maintenance plan
5931	Battery fault	Communication error	Contact the customer service
5971 / 5972	Battery fault	Contacts on the battery are bent	Contact the customer service
		Battery is not fully inserted	Insert the battery fully into the holder
		Battery is not charged	Charge the battery



## **EC Declaration of Conformity**

**Hako GmbH**  
**Hamburger Str. 209-239**  
**23843 Bad Oldesloe, Germany**

declare in sole responsibility that the following product

**Scrubmaster B5 type: 7150**

to which this declaration relates corresponds with the relevant basic safety and health requirements of EC Directive 2006/42/EC as well as the requirements according to 2014/30/EC and 2014/53/EC.

The following standard(s) and technical specifications was/were referred to for the correct implementation of the safety and health requirements named in the EC Directive:

**EN 60335-2-72**  
**EN 55012**  
**EN 61000-6-2**

Name of the authorised person who compiles the technical documents for Hako:

Ludger Lüttel

Bad Oldesloe, 20.04.2023



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