

BR/BD 100/250 R  
BR/BD 100/250 RI  
BR 120/250 R  
BR 120/250 R




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59635290 06/11

 Please read and comply with these original instructions prior to the initial operation of your appliance and store them for later use or subsequent owners.

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## Safety instructions

Before using the appliance for the first time, read and observe these operating instructions and the accompanying brochure: Safety information for brush cleaning units and spray-extraction units, 5.956-251. The machine has been approved for use on surfaces with gradients of up to 15%.

### Safety Devices

Safety devices serve to protect the user and must not be rendered inoperational or their functions bypassed.

#### Emergency-stop button

To put all functions out of operation immediately: Press emergency-stop button.

- The machine comes to a sudden halt when you press the emergency-stop button.
- The emergency-stop has a direct effect on all machine functions.
- The display continues.

After emergency-stop, the key switch must remain in position "1" to ensure the following functions:

- Close the dosing valve to prevent the tank from overflowing.
- Operating the safety lamps.

#### Safety button

Switches off the drive motor after a short delay of 1.5 seconds, if the operator leaves the operator seat during operation or while moving.

## Symbols in the operating instructions

### **Danger**

*Immediate danger that can cause severe injury or even death.*

### **Warning**

*Possible hazardous situation that could lead to severe injury or even death.*

### **Caution**

*Possible hazardous situation that could lead to mild injury to persons or damage to property.*

## Function

- The appliance is used for the wet cleaning or polishing of level floors. You can adjust the machine to suit the cleaning task by modifying the settings for water quantity, contract pressure and the speed of the brushes, the quantity of cleaning agent as well as the driving speed.
- Rotating roller or disc brushes clean the floor while adding detergent. The contaminated cleaning liquid is suctioned into the wastewater reservoir.
- In BR/BD...RI models, loose dirt is picked up through a sweeping mechanism before actual cleaning.
- A working width of 1000 mm and a capacity of 250 l each of the fresh and dirt water reservoirs enable an effective cleaning even when the machine is used for long duration.
- The device is self-moving; the drive motor is feed by a trough battery.
- The batteries can be charged using a charger connected to a 230 V socket.
- Depending on the package type, battery and charger are included.

## Proper use

Use this appliance only as directed in these operating instructions.

- The appliance may only be used for the cleaning of hard surfaces that are not sensitive to moisture and polishing operations.
- The application temperature ranges from +5°C to +40°C.
- The appliance is not suited for the cleaning of frozen grounds (e.g. in cold stores).
- The appliance may only be equipped with original accessories and spare parts.
- The appliance must not be operated without the flat folded filter in the lid of the waste water tank.
- The appliance has been designed for the cleaning of floors inside or covered surfaces. With respect to other applications the usage of alternative brushes (and also the use of the sweeping mechanism in the BR/BD...RI models) must be checked.

- BR/BD...RI (with sweeping mechanism): Only drive over steps with maximum 2 cm height.
- The appliance is not intended for the cleaning of public traffic routes.
- The machine should not be used on surfaces that are sensitive to pressure. Please consider the allowed load per surface unit of the floor. Details of load per surface unit can be found in the technical data.
- The appliance is not suited for the use in potentially explosive environments.
- The machine should not be used to suck in inflammable gases, undiluted acids or solvents.

This includes petrol, thinning agents or hot oil that can form an explosive mixture when it comes in contact with sucked air. Do not use acetone, undiluted acids and solvents as they are aggressive towards the materials from which the appliance is made.

## Environmental protection



The packaging material can be recycled. Please do not place the packaging into the ordinary refuse for disposal, but arrange for the proper recycling.

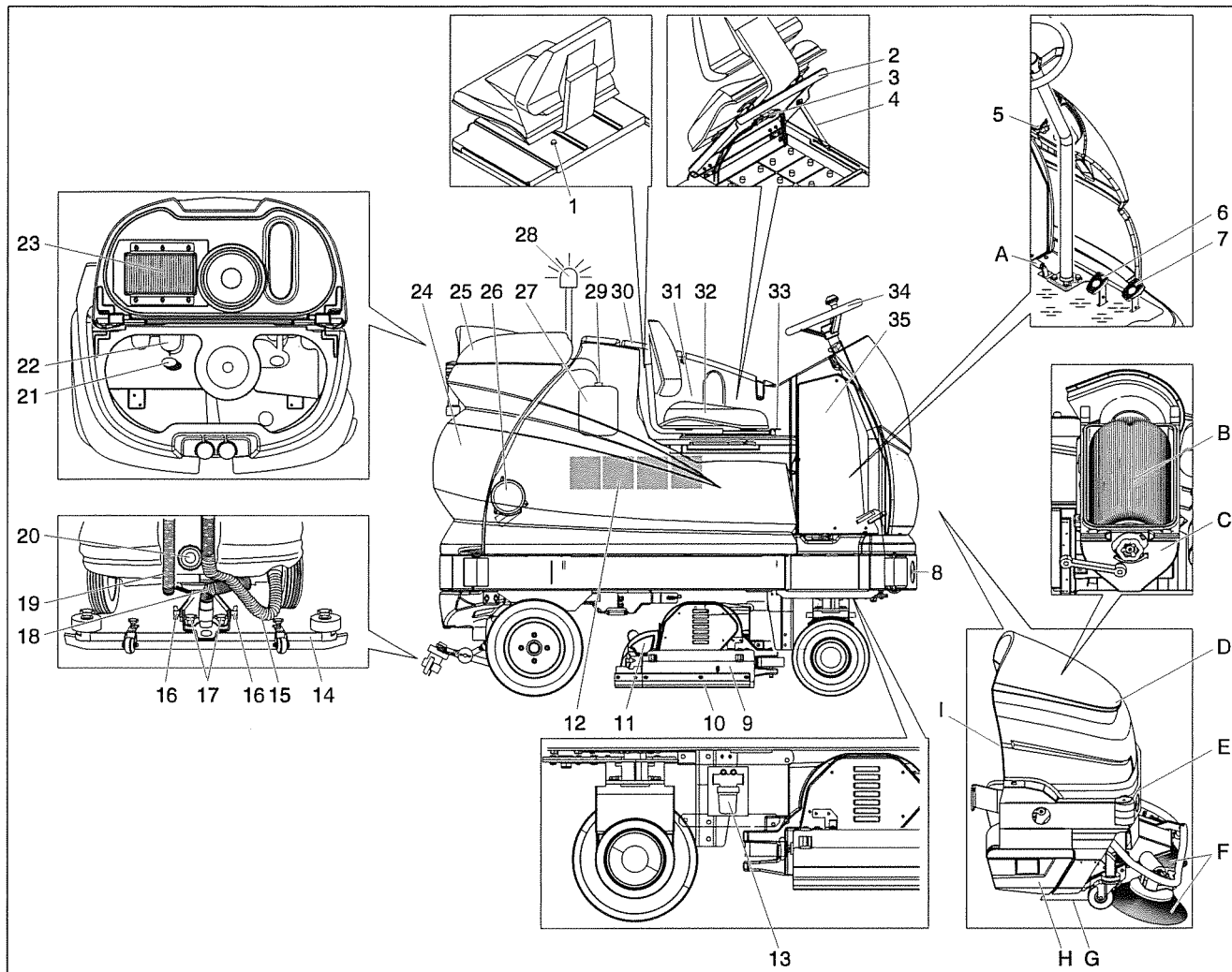


Old appliances contain valuable materials that can be recycled. Please arrange for the proper recycling of old appliances. Batteries and accumulators contain substances that must not enter the environment. Please dispose of your old appliances, batteries and accumulators using appropriate collection systems.

#### Notes about the ingredients (REACH)

You will find current information about the ingredients at:

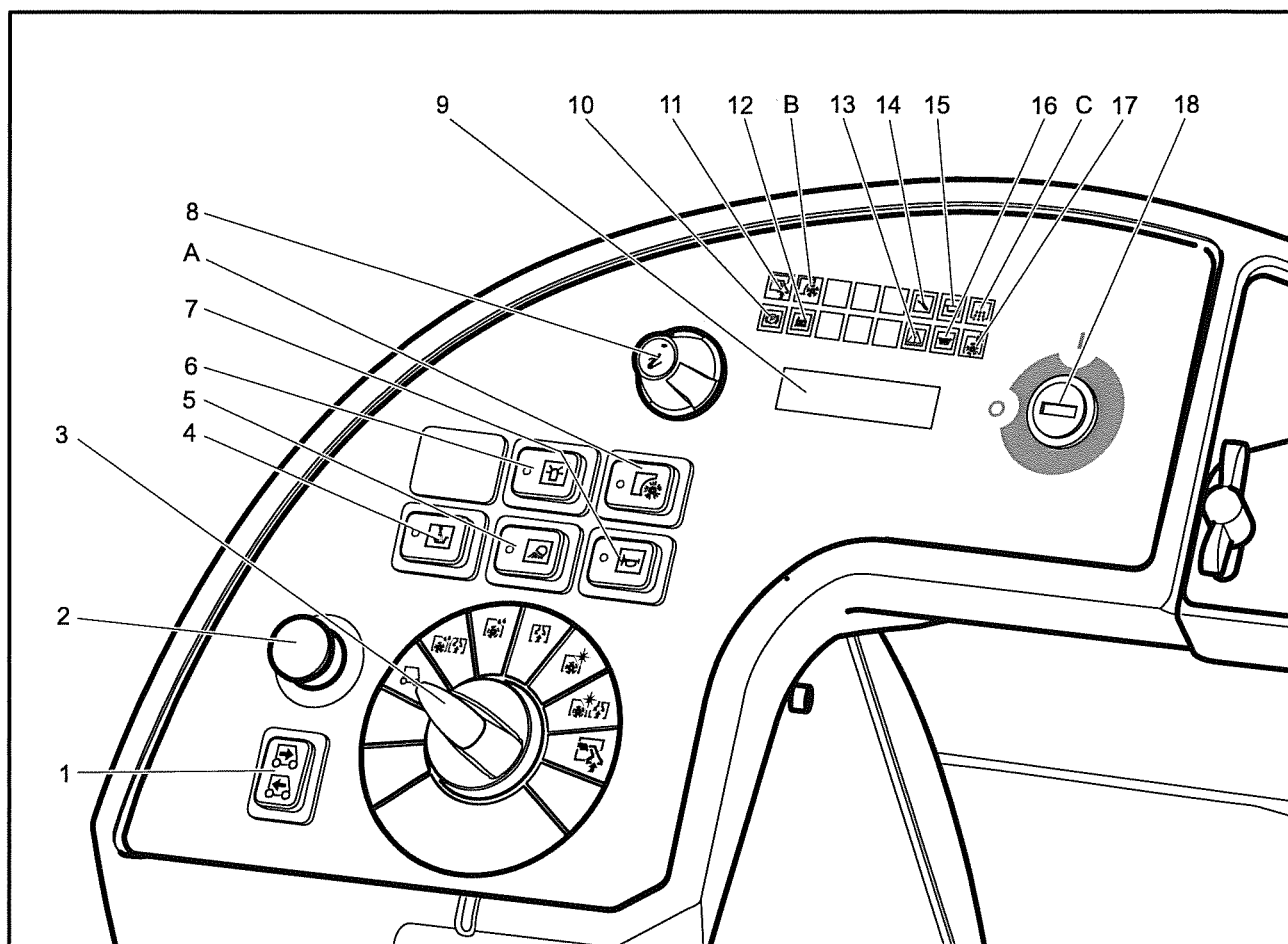
[www.kaercher.com/REACH](http://www.kaercher.com/REACH)



- |   |   |
|---|---|
| 1 Screw of seat stopper                         | 27 Canister for detergent (optional)                |
| 2 Seat bracket                                  | 28 Overall lamp (optional)                          |
| 3 Battery socket                                | 29 Suction hose for detergent (optional)            |
| 4 Support of seat bracket                       | 30 Fresh water tank cover                           |
| 5 Adjustment of steering wheel                  | 31 Switching recycling/ fresh water mode (optional) |
| 6 Brake pedal                                   | 32 Seat (with seat contact button)                  |
| 7 Drive pedal                                   | 33 Lever for seat adjustment                        |
| 8 Light (optional)                              | 34 Steering wheel                                   |
| 9 Cleaning head                                 | 35 Electronics/control                              |
| 10 Wiping flap                                  | * not included in the delivery                      |
| 11 Waste container (only BR)                    |   |
| 12 Battery                                      |   |
| 13 Fresh water filter                           |   |
| 14 Vacuum bar *                                 |   |
| 15 Dirt water discharge hose                    |   |
| 16 Wing nuts for tilting the vacuum bar         |   |
| 17 Wing nuts for fastening the vacuum bar       |   |
| 18 Suction hose                                 |   |
| 19 Drainage hose for fresh water                |   |
| 20 Cleaning opening of the dirt water reservoir |   |
| 21 Recycling filter (optional)                  |   |
| 22 Float  |   |
| 23 Flat fold filter                             |   |
| 24 Dirt water reservoir                         |   |
| 25 Cover dirt water reservoir                   |   |
| 26 Suction turbine                              |   |

## Only for BR/BD...RI models

- |  |
|--|
| A Pedal of bulk waste flap                                   |
| B Dust filter  |
| C Filter case  |
| D Hood of sweeping mechanism                                 |
| E Sweeping mechanism   |
| F Side brushes   |
| G Roller brush   |
| H Waste container left/right                                 |
| I Lock the hood of the sweeping mechanism (unlock = turn in) |



- 1 Driving direction switch
- 2 Emergency-stop button
- 3 Program switch
- 4 Button for tank cleaning (optional)
- 5 Working lamp button (optional)
- 6 Overall lamp button (optional)
- 7 Horn
- 8 Info button
- 9 Display
- 10 Indicator lamp - automatic immobilizing brake active
- 11 Indicator lamp - manual cleaning program active
- 12 Indicator lamp - battery monitoring
- 13 Indicator lamp - fault
- 14 Indicator lamp - service
- 15 Indicator lamp: detergent tank empty (Option)
- 16 Indicator lamp - Dirt water tank full
- 17 Indicator lamp - brush overload
- 18 Key switch

**Only for BR/BD...RI models**

- A Button for sweeping  
 B Indicator lamp for sweeping  
 C Indicator lamp for shaking off dust filter

**Before Startup**

**Batteries**

Please observe the following warning notes when handling batteries:

	Observe the directions on the battery, in the instructions for use and in the vehicle operating instructions
	Wear eye protection
	Keep children away from acid and batteries
	Danger of explosion
	Fire, sparks, naked flames and smoking must be strictly avoided
	Danger of chemical burns
	First aid
	Warning note

	Disposal
	Do not throw the battery into the regular waste

**⚠ Danger**

Risk of explosion! Do not put tools or similar on the battery, i.e. on the terminal poles and cell connectors.

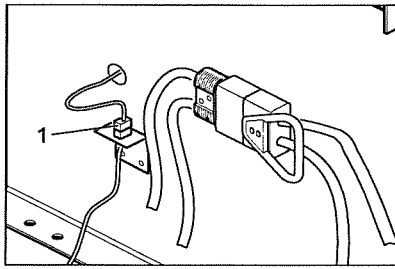
**⚠ Danger**

Risk of injury! Ensure that wounds never come into contact with lead. Always clean your hands after having worked with batteries.

**Insert batteries and connect**

The BAT package model contains built-in batteries.

- ➔ The steering position should point towards the front.
- ➔ Swivel the seat to the front.



- 1 Plug for seat contact switch
  - Remove screw of seat stopper.
  - Pull out the plug of the seat contact switch and push it back through the opening.
  - Unlock the driver seat and pull it upward.
  - Hang out the support for the seat bracket and tilt the seat bracket towards the front.
  - Lift battery cover.
  - Insert battery. Battery connections in front direction.
- ⚠ Warning**  
*Risk of damage due to inadvertent transposition of the battery terminals.*  
*Pay attention to correct poles.*
- Connect the connection cable to the free battery poles (+) and (-). Lay the cables in such a way that they do not get clamped by the seat.
  - Replace battery cover.
  - Insert battery plug.
  - Hang in the support for the seat bracket.
  - Insert the seat.
  - Reconnect the plug of the seat contact switch.
  - Install screw of seat stopper.
  - Swivel the seat downward.

#### Caution

*Risk of damage due to deep discharge of batteries.*  
*Charge the batteries before commissioning the machine.*

#### Charge the batteries

##### Note

*The device is equipped with a safety mechanism to prevent total discharge, i.e. when the permissible minimum capacity is reached, then the machine can only be driven and existing lamps can be switched on. In such a case, the battery monitoring symbol on the control console glows red.*

- Drive the machine directly to the charging station; avoid any steep gradients in the process.

##### Note

*While using other batteries (for e.g. batteries from other manufacturers) the total discharge protection level must be reset by the Kärcher aftersales service according to the respective battery.*

#### ⚠ Danger

*Risk of electric shock. Observe supply network and fuse protection - see "Charger".*

*Only use the charger in dry rooms with sufficient ventilation!*

##### Note

*Average charging time is approx. 10 - 12 hours.*

*The recommended chargers (matching the batteries used) are regulated electronically and will automatically switch off the charging process.*

#### ⚠ Danger

*Danger of explosion. Wet batteries can only be charged with the seat tilted up.*

- Tilt the seat upward.
- Remove battery plug and join it to the charging cable.
- Connect the charger to the mains and turn it on.

#### After charging

- Switch off the charger and remove the plug from the socket.
- Pull the battery cable from the charger cable and connect it to the machine.

#### Low maintenance batteries (wet batteries)

- Add distilled water one hour before the charging process comes to an end; follow the correct acid level. There are corresponding indicators on the battery. At the end of the charging process, all cells must gas.

#### ⚠ Danger

*Danger of causticization!*

- Adding water to the battery in its discharged state can cause the acid to leak.
- Use safety glasses while handling battery acid and follow the safety instructions to avoid personal injury or damage to clothes.
- Should the acid spray on to the skin or clothes, rinse immediately with lots of water.

#### Caution

*Risk of damage!*

- Use only distilled or desalinated water (EN 50272-T3) for filling the battery.
- Do not add any substances (so-called performance improving agents), else warranty claims will not be entertained.

#### Recommended batteries, chargers

	Order No.
Battery set	6.654-136
Charger	6.654-044

Batteries and chargers are available in specialised stores.

#### Maximum battery dimensions

Length	Width	Height
842 mm	627 mm	537 mm

If you use wet batteries in the BAT model, then follow the following instructions:

- It is necessary to conform to the maximum battery dimensions.
- While charging wet (maintenance-free) batteries, it is necessary to tilt the seat upward.
- While charging wet batteries, follow the specifications of the battery manufacturer.

### Removing the batteries

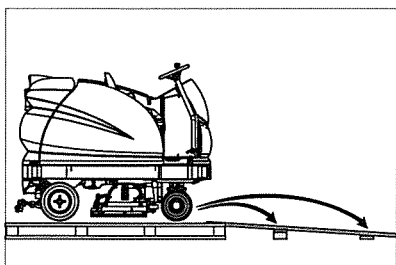
- Set the key switch at the operator console to "0" and remove the key.
- The steering position should point towards the front.
- Swivel the seat to the front.
- Remove screw of seat stopper.
- Pull out the plug of the seat contact switch and push it back through the opening.
- Unlock the driver seat and pull it upward.
- Hang out the support for the seat bracket and tilt the seat bracket towards the front.
- Lift battery cover.
- Clamp off the minus pole of the battery.
- Clamp off the remaining cables from the battery.
- Remove the batteries.
- Dispose of the used batteries according to the local provisions.

### Unloading

#### Note

Press the emergency-stop button to immediately deactivate all functions and turn the key switch to the "0" position.

- Four floor boards of the pallet are fastened with screws. Unscrew these boards.
- Place the boards on the edge of the pallet. Place the boards in such a way that they lie in front of the four wheels of the machine. Fasten the boards with screws.



- Slide the four support beams included in the packaging under the ramp.
- Only BR 120/250...: Remove front transport eyelets from the palette.
- Remove the wooden bars in front of the wheels.

#### With battery installed

- Release emergency-stop button by turning.
- Set main switch to "1".
- Press the drive direction switch and slowly move the machine down from the ramp.
- Set main switch to "0".

#### Without battery

- Release the park brake (see "Pushing the appliance").
- One person must sit on the seat and activate the brake pedal during the pushing if necessary.

- Push down the appliance through the ramp from the pallet.
- Re-tighten the screws of the park brake.

### Installing the Brushes

#### BD model

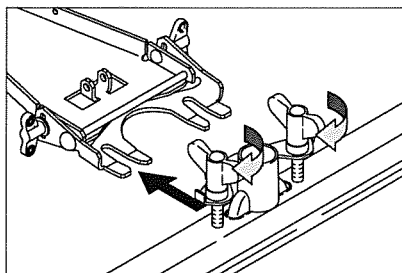
The sweep brushes must be installed before the initial operation (see "Maintenance work").

#### BR model

The brushes are mounted.

### Installing the Vacuum Bar

- Insert the vacuum bar into the vacuum bar suspension in such a manner that the profiled sheet is positioned above the suspension.
- Tighten the wing nuts.



- Insert the suction hose.

### Operation

#### Note

Press emergency-stop switch to immediately switch off all functions of the machine.

### Check immobilizing brake

#### ⚠ Danger

*Danger of accident. The immobilizing brake must always be checked first on an even surface before starting the machine.*

- Take the seating position.
- Release emergency-stop button by turning.
- Set main switch to "1".
- Select direction of travel.
- Gently depress drive pedal.

The brake must get released and you must be able to hear it (the control lamp for immobilizing brake on the console switches off). The machine must roll slightly on a plane surface. When the pedal is released, the brake falls in in an audible manner. Switch off the machine and call the after-sales service if the above-mentioned events do not occur.

### Driving

#### ⚠ Danger

*Danger of accident. If the machine does not brake, then proceed as follows:*

- If the machine does not come to a halt on a ramp with a gradient of 2% when you release the drive pedal, then the emergency-stop button may be pressed for safety reasons only if the mechanical functioning of the immobilizing brake has been checked properly before commissioning the machine.

Press the brake pedal if the machine does not brake properly.

- Switch off the machine only after it comes to a complete halt (on an even surface) and call up the after-sales service!
- Further, follow all warning instructions for braking.

#### ⚠ Danger

*Danger of tipping if gradient is too high.*

- *The gradient in the direction of travel should not exceed 15%.*

*Danger of tipping when driving round bends at high speed.*

*Danger of slipping on wet floors.*

- *Drive slowly when cornering.*

*Danger of tipping on unstable ground.*

- *Only use the machine on sound surfaces.*

*Danger of tipping with excessive sideways tilt.*

- *The gradient perpendicular to the direction of travel should not exceed 15%.*

#### ⚠ Danger

*Increased risk of accident on account of tilting sweeper for BR/BD... RI models. Be extra careful while driving reverse and pay attention to the swiveling movement while steering the sweeper.*

#### Adjust the seat

- Move the seat adjustment lever away from the seat and hold it.
- Then push the seat forwards or backwards.
- Release the seat adjustment lever and lock the seat in place.

#### Adjusting the steering wheel

- Loosen the wing nut to adjust the steering wheel.
- Position the steering wheel.
- Tighten the wing nuts.

#### Drive the machine

- Release emergency-stop button by turning.
- Sit on the seat and set main switch to "1".
- Set the drive direction using the drive direction button at the operator console.
- Determine the driving speed by pressing the drive pedal.
- Stop the machine: Release driving pedal; press brake, if necessary.

#### Note

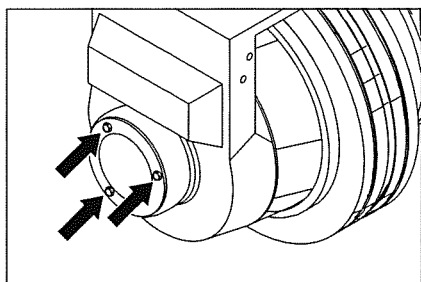
*The drive direction can also be changed during the drive. You can thus clean very dirty surfaces by driving back and forth a couple of times.*

#### Overload

In case of overloading, the drive motor automatically switches off after a certain period. A fault message is displayed on the console. The concerned unit gets switched off if the controls get overheated.

- Allow machine to cool down at least for 15 minutes.
- Turn the key switch to "0", wait for a few seconds and then turn it to "1".

## Pushing the device



- Loosen the three hexagonal screws by key width 7 mm (arrow) by three revolutions each to unlock the emergency brake.

→ Push the appliance.

→ Retighten the screw.

### ⚠ Danger

*Danger of accident by failing brakes.*

*Retighten the screws immediately after the sliding process.*

## Check flat folded filter

### Caution

*Risk of damage to the suction turbine if operated without flat folded filter.*

- Prior to operating the appliance, check the flat folded filter inside the lid of the waste water tank for its presence, correct installation and condition.

→ Replace damaged flat folded filter.

## Filling in detergents

### Detergent

#### ⚠ Warning

*Risk of damage. Only use the recommended detergents. With respect to different detergents the operator bears the increased risk regarding the operational safety and danger of accident.*

*Only use detergents that are free from solvents, hydrochloric acid and hydrofluoric acid. Follow the safety instructions for using detergents.*

### Note

*Do not use highly foaming detergents.*

*Recommended detergents:*

Application	Detergent
Routine cleaning of all water resistant floors	RM 745
	RM 746
Routine cleaning of glossy surfaces (e.g. granite)	RM 755 ES
Routine cleaning and basic cleaning of industrial floors	RM 69 ASF
Routine cleaning and basic cleaning of fine stoneware tiles	RM 753
Routine cleaning of tiles in sanitary areas	RM 751
Cleaning and disinfection in sanitary areas	RM 732
Removal of coating from all alkali-resistant floors (e.g. PVC)	RM 752
Removal of coating from linoleum floors	RM 754

### Fresh water

- Open the cover of the fresh water reservoir.
- Fill fresh water (max. 60 °C) until 15 cm below the upper edge of the tank.
- Pour in detergent.
- Close the cover of the fresh water reservoir.

### Note

*Fill up the fresh water tank completely before starting up the machine to ventilate the water supply system.*

### Metering device (option)

Detergent is added to the fresh water on the way to the cleaning head with the help of a dosaging device.

### Note

*The metering device can be used to add 5% of detergent at maximum. In case of a higher dose the detergent must be poured into the fresh water tank.*

- Place the canister with the detergent in the trough behind the seat.
- Unscrew the canister lid.
- Insert the suction hose of the dosing equipment into the canister.

### Note

- *The appliance is equipped with a fresh water level display. If the fresh water tank is empty, then the function of adding detergent gets deactivated. The cleaning head continues to work without the addition of any liquid.*
- *Detergent addition is also stopped when the detergent can is empty. Indicator lamp: "detergent tank empty" glows red. Only fresh water is supplied to the cleaning head.*

## Sweeping (only BR/BD...RI)

The sweeper picks up loose dirt before cleaning the floor.

### Caution

*Risk of damage to the sweeper.*

- *Do not sweep in packing tapes, wires or similar objects.*
- *Only drive over steps with maximum 2 cm height with the BR/BD...RI models.*
- *The dust filter can get blocked or germs can form in it. Use the sweeper only to sweep dry surfaces.*

### Note

*Suction turbine, side brushes and filter cleaner continue to run for a while after switching off.*

- Switch on "sweeping" button.

The sweeper is activated. The indicator lamp "sweeping" is on during the operations.

### Bulk waste flap

The bulk waste flap can be raised to sweep in larger objects (up to max. 6 cm height).

### ⚠ Danger

*Risk of injury on account of electric shock. Raise the bulk waste flap only when there is no person standing close by.*

- Press the pedal for raising the bulk waste flap.

### Note

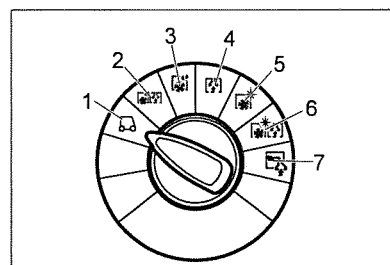
*The vacuuming and sweeping performance is lower when the bulk waste flap is raised. Hence, raise the bulk waste flap only when needed.*

### Stopping sweeping

- Set "sweeping" button to "0".

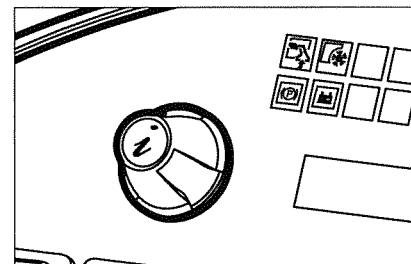
The sweeper is deactivated. Once you have stopped sweeping, the dust filter is cleaned for approx. 15 seconds. The indicator lamp "dust filter shaking" glows.

## Cleaning Programs



- Driving**  
Driving to the Place of Use.
- Scrubbing suction**  
Wet clean the floor and vacuum up dirt water.
- Wet scrubbing**  
Wet clean the floor and allow the detergent to react.
- Vacuuming**  
Suck in the dirt fleet.
- Polishing**  
Polishing the floor without the application of liquid.
- Scrub the floor without applying water (vacuum polishing)**  
Polish the floor without applying any fluid and suck in the polishing dust.
- Manual cleaning**  
Apply liquid detergent using the wall-ceiling-floor nozzle (optional) and vacuum it again.

## Info button



Use the Info button to select the menu items and do the settings.

- Turning the button to the right/left scrolls through the menus forward/backward.
- The selected setting gets accepted by pressing the button.

## Settings

You can make the settings for the different cleaning programs in the operator menu. Different parameters can be set based on the cleaning program. The settings are done using the Info button.

### Operations menu

- Release emergency-stop button by turning.
- Sit on the seat and set main switch to "1".

The display shows the battery charging status and the fresh water level.

- Select cleaning program.
- Call the operator menu by turning the info button.
- Select the desired parameter by turning the Info button. The currently set value is displayed as a bar.
- Press Info button, the bar display blinks.
- Reset the parameter by turning the Info button between "min" and "max".
- Accept modified setting by pressing the Info button or wait till the set value is accepted automatically.

### Note

If the selected parameter does not change within 10 seconds, then the display goes back to displaying the battery charging status and the fresh water level.

The same cleaning parameter can have individual settings for each cleaning program.

The brush pressure can be set only when the machine is on in the programs brush suction, wet brushing, polishing and polish suction.

All settings are saved in the powerless state of the machine.

### Reset parameters

- Select the menu item "Accept default values?" in the operator menu by turning the Info button
- Press Info button. The factory settings of all parameters are restored for each cleaning program.

Adjustable parameters	min:step:max	Remark
Water quantity	1:1:8	0=min., 8=max.
Detergent dosing unit	0:1:5	0=Off, 1=min., 5=max.
Brush pressure	0:1:8	0=min., 8=max.
FACT (brush speed)	—	Power-, Whisper-, Fine Clean
SUCTION (suction performance)	—	Mode: POWER, Mode: WHISPER
Brush rotation time after stop	0s:1s:3s	From idling to lifting

Working speed	1:1:6	1=1km/h, 6=6km/h
Only for BR/BD...RI models:		
Trailing time for sweeper after stopping	0s:1s:3s	From idling to lifting

The table given below gives details of the factory settings of the parameters for the cleaning programs. If no values are entered, then the respective parameter cannot be set in the given cleaning program.

### Factory setting BR....:

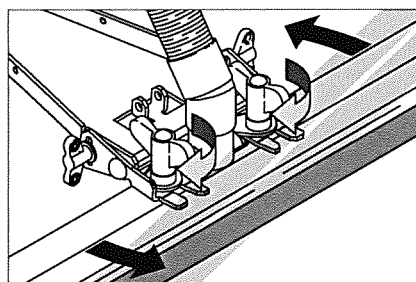
	min								
		Water quantity	Detergent dosing	Brush pressure	FACT (brush speed)	SUCTION	Brush trailing time (s)	Working speed	Trailing time for sweeping
Driving		—	—	—	—	—	—	—	2
Scrubbing suction		5	0	4	p	p	2	4	—
Wet scrubbing		5	0	4	p	—	2	4	—
Dry vacuum cleaning		—	—	—	—	p	—	4	—
Polishing		—	—	4	p	—	0	4	—
Polish suction		—	—	4	p	p	0	4	—
Manual cleaning		—	—	—	—	—	—	—	—
P=Power Clean									

## Setting the Vacuum Bar

### Oblique position

To improve the vacuuming result on tiled floors the vacuum bar can be turned to an oblique position of up to 5°.

- Release the wing nuts.
- Turn the vacuum bar.

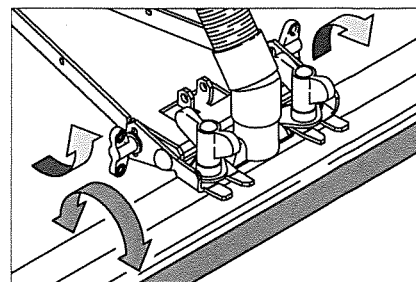


- Tighten the wing nuts.

### Inclination

If the vacuum result is unsatisfactory the inclination of the straight vacuum bar can be modified.

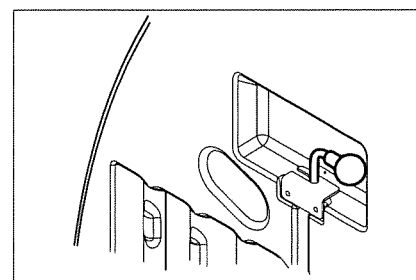
- Release the wing nuts.
- Tilt the vacuum bar.



- Tighten the wing nuts.

## Recycling operations (option)

- During normal operations (fresh water mode), water is taken from the fresh water tank and collected in dirt water tank after use.
- Water can be circulated for floors with dirt levels of slight to normal.
- First clean in the fresh water mode till the water in the fresh water tank has been consumed.



- The set the switching of recycling/ fresh water mode to Recycling.

### Note

- The dirt water is cleaned by a filter before being reused.
- For recycling operations, the entire recycling filter must lie below the dirt water level.

### Caution

Risk of damage due to overdose of detergent. Very often, the detergent contained in the dirt water has only been partially used. Hence, in the recycling mode, the detergent quantity to be added is to be set to 0.

## Empty tanks.

### Note

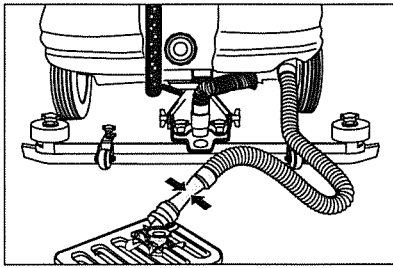
Overflow dirt water tank. If the dirt water tank is full, the suction turbine switches off and the indicator lamp "dirt water tank full" begins to blink. All cleaning programs with suction are blocked for one minute. Empty the dirt water reservoir.

### Warning

Please observe the local provisions regarding the wastewater treatment.

- Take the fresh water drain hose or the dirt water drain hose from the support and lower it into a suitable collection device.





- Let off water by opening the dosage device at the discharge hose.
- Then rinse the dirt water tank with clear water.

### Frost protection

In case of danger of frost:

- Empty the fresh and dirt water reservoirs.
- Store the appliance in a frost-protected room.

### Transport

#### ⚠ Danger

*Risk of injury! When loading or unloading the machine, it may only be operated on gradients of max. 15%. Drive slowly. Risk of injury and damage! Observe the weight of the appliance when you transport it.*

- When transporting in vehicles, secure the appliance according to the guidelines from slipping and tipping over.

### BD model

- Remove brushes from the brush head.

### Storage

#### Caution

*Risk of injury and damage! Note the weight of the appliance in case of storage. This appliance must only be stored in interior rooms.*

### Maintenance and care

#### ⚠ Danger

*Risk of injury if the machine is left running in an unattended state. Before carrying out any tasks on the machine, set the main key to "0" and remove it. Press emergency-stop button. Remove the battery plug.*

#### Note

*Suction turbine, side brushes and filter cleaner continue to run for a while after switching off. Carry out maintenance tasks only after these components have come to a halt.*

- Drain and dispose of the dirt water and the residual fresh water.

### Maintenance schedule

#### After the work

#### Caution

*Risk of damage. Do not wash down the appliance with water and do not use aggressive detergents.*

- Drain off dirt water.

- Check the flat folded filter, clean if required
- Only BR model: Remove bulk waste container and empty it.
- Clean the outside of the appliance with a damp cloth which has been soaked in mild detergent.
- Clean the vacuum lips and the wiping lips, check for wear and replace if required.
- Check the brushes for wear, replace if required.

- Charge battery.

If the dirt water tank is very dirty:

- Remove the vacuum bar.
- Unscrew the cover of the cleaning opening of the dirt water tank.
- Rinse the dirt water tank with clear water.
- Clean the edges of the cleaning opening and replace the lid.
- Install the vacuum bar.

Further, for BR/BD...RI models:

- Pull out both the waste containers and empty them.
- Check the roller brush and the side brush for wear, foreign bodies and wrapped belts

#### Monthly

- Check battery pole for oxidation; brush it if required and lubricate it using pole grease. Ensure that the connection cable sits firmly.
- Clean the seals between dirt water reservoir and cover and check for tightness, replace if required.
- Check the acid density of the cells if the batteries are not maintenance-free batteries.
- Clean the brush tunnel (only BR model).

Further, for BR/BD...RI models:

- Check for smooth running of the Bowden cables and the moveable parts
- Check the sealing strips of the sweeper for settings and wear.

#### Quarterly

Only for BR/BD...RI models:

- Check tension, wear and function of drive belts of the sweeper (V-belt and circular belt).

#### Yearly

- Have the prescribed inspection carried out by the customer service.

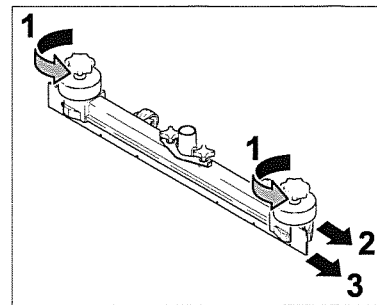
### Maintenance Works

#### Maintenance contract

To ensure a reliable operation of the appliance maintenance contracts can be concluded with the competent Kärcher sales office.

#### Replacing the vacuum lips

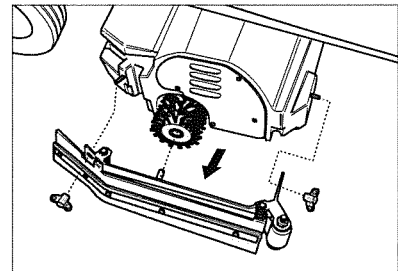
- Remove the vacuum bar.
- Loosen cross-handles.



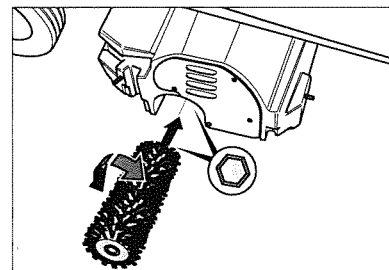
- Remove the plastic parts.
- Remove the vacuum lips.
- Insert new vacuum lips.
- Insert the plastic parts.
- Tighten the cross-handles.

#### Replacing the brush rollers

- Release the wing nuts.
- Remove bearing lid.



- Take out the brush roller, insert a new one (pay attention to the hexagonal intake of the brush rollers).



- Place bearing lid.
- Tighten the wing nuts.
- Repeat process on the opposite side.

#### Replacing the Disk Brushes

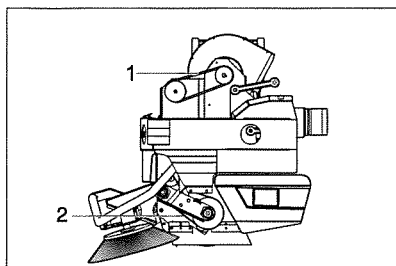
- Raise the disk brushes.
- Turn the disk brushes by approximately 45°.
- Remove the disk brushes at the bottom.
- Insert the new disk brushes in reverse sequence.

### Additional maintenance tasks for BR/BD...RI models:

#### ⚠ Danger!

*Risk of injury on account of belt drives. The sweeper hood must compulsorily be closed and locked before recommissioning the machine after maintenance tasks.*

#### Checking drive belt



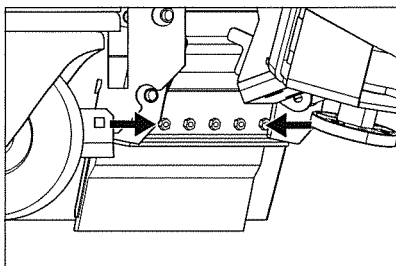
- 1 Belt suction turbine Sweeper  
2 Belt of roller brush drive

→ Check both the belts for wear and proper fitting.

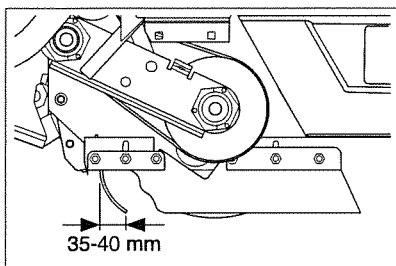
#### Check sealing strips of sweeper

- Park the machine on an even surface.
- Set main switch to "0".
- Secure the machine with wheel chock(s) to prevent it from rolling away.
- Remove waste containers on both sides.

#### ■ Front sealing strip



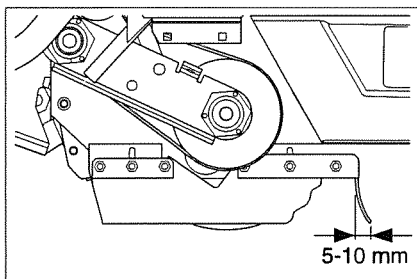
→ Loosen fastening nuts.



→ Align the sealing strip so that the bottom edge trails behind at a distance of 35 to 40 mm.

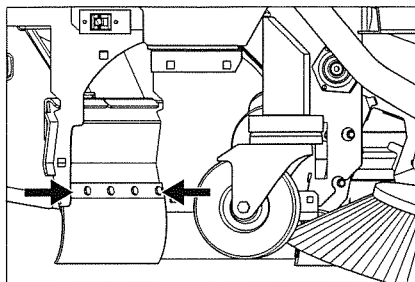
→ Tighten nuts.

#### ■ Rear sealing strip



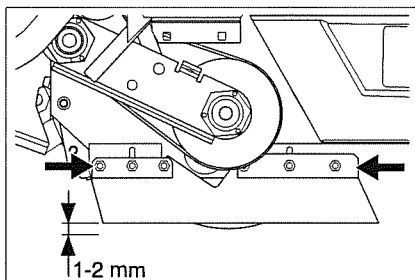
The floor clearance of the rear sealing strip is designed in such a way that the sealing strip trails behind at a distance of 5 to 10 mm.

- Replace sealing strip if worn out.
- Dismantling the roller brush (see "Replacing the roller brush").



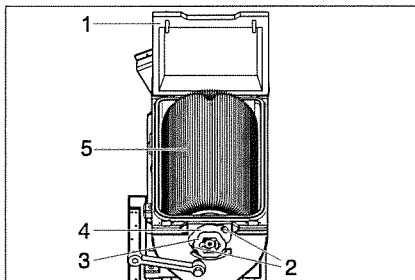
- Loosen fastening nuts.
- Screw on the new sealing strip.
- Tighten nuts.

#### ■ Side sealing strips



- Loosen fastening nuts.
- Set floor clearance by pushing in a sheet of 1-2 mm thickness.
- Adjust sealing strip.
- Tighten nuts.
- Install roller brush.

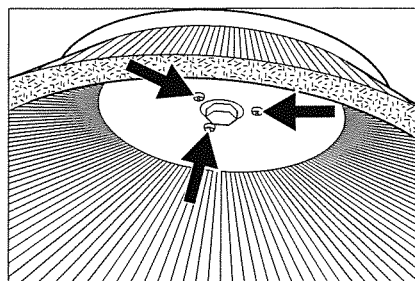
#### Replacing the dust filter



- 1 Lid of dust filter casing  
2 Screws  
3 Flange  
4 Dust filter bearing  
5 Dust filter

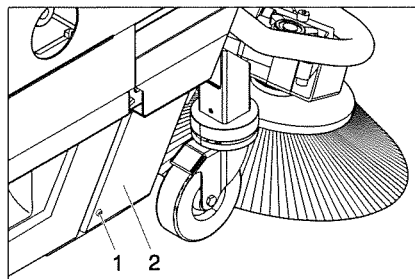
- Loosen the lock of the hood of the sweeper by turning it in.
- Tilt up the sweeper hood.
- Remove the lid of the dust filter casing.
- Loosen both screws.
- Turn the flange in an anticlockwise direction and remove the dust filter bearing.
- Take out the dust filter.
- Insert the new dust filter in such a way that the holes point to the front of the carrier.
- Replace the dust filter bearing, turn in clock-wise direction and fasten it with screws.
- Replace the lid and press it.
- Close the sweeper hood.
- Ensure proper locking of the hood by turning.

#### Replacing the side brushes



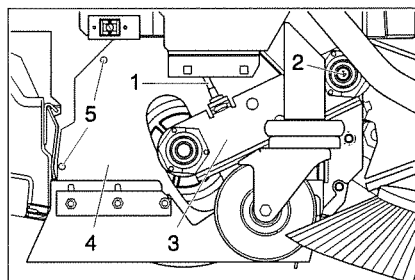
- Loosen 3 screws.
- Remove the wiper blade.
- Push in the new side brush.
- Tighten 3 screws.

#### Replacing the roller brush



- 1 Screw  
2 Tin cover

- Pull out the waste container.
- Loosen screws.
- Tilt the tin cover upwards and remove it.



- 1 Bowden cable  
2 Screw of the link bracket  
3 Link  
4 Cover  
5 Lid screws

- Hang out the Bowden cable.
- Loosen and remove screws of the link bracket.
- Remove the crank.
- Loosen and remove both screws of the lid and open the cover.
- Pull out roller brush.
- Insert new roller brush and reassemble the sweeper in the reverse sequence.
- Readjust the Bowden cable.

#### Frost protection

In case of danger of frost:

- Empty the fresh and dirt water reservoirs.
- Store the appliance in a frost-protected room.

## Troubleshooting

### **Danger**

*Risk of injury if the machine is left running in an unattended state. Before carrying out any tasks on the machine, set the main key to "0" and remove it. Press emergency-stop button. Remove the battery plug.*

→ Drain and dispose of the dirt water and the residual fresh water.

In case of faults that cannot be remedied using the table below please contact the customer service.

### **Replace fuses**

The operator may only replace the following vehicle flat fuses having the following values:

- 7.5A (F1) – Control and emergency power supply.
- 30A (F3) – Lift/accessories module supply.
- 80A (F6) – Lift/Clean module 2 (sweeper).

### **Note**

*Defective pole fuses should only be replaced by the service center. If these fuses are defective, then customer service center has to check the usage conditions and the entire control system.*

The control unit is located below the operating panel. To access the fuses the cover on the left side of the foot compartment must be removed in advance.

- Turn out the fastening screws at the upper end of the cover.
- Remove cover.
- Replace fuse.
- Replace cover.

### **Note**

*The population of fuses is displayed on the inner side of the cover.*

### **Fault indication**

The display shows the existing faults at intervals of 4 seconds (example:

Fault scrubbing  
funktion H1/022

If the faults continue to be displayed on the console even after 4 seconds, then proceed as follows:

- Bring the key switch to "0" (switch off the machine).
- Wait till the text on the display has disappeared.
- Bring the key switch back to "1" (switch on the machine). Carry out the troubleshooting measures in the given sequence only if the fault occurs again. At such times, always bring the main switch to the "0" position and ensure that the emergency-stop button is depressed.
- If the fault cannot be repaired, call customer service and mention the fault code(s) (H1/022 in the example).

### Faults with display

Display		Cause	Remedy
Sitzschalter unterbrochen	seat switch open	Seat contact switch has not been activated.	The machine operates only if the operator is seated on the seat.
Gaspedal loslassen!	release throttle?	The gas pedal is depressed when the main switch is on.	Take your foot off the accelerator before switching on the main switch. If the fault recurs, call customer service.
Batterie leer -> Laden!	battery empty -> charge!	The discharge level of the battery has been reached. Cleaning units can no longer be operated. Drives and lighting can be activated.	Drive the machine to the charging station and charge the battery.
Batterie tiefentladen	battery totally discharged!	More than the permissible battery capacity has been utilised. All units will be switched off. Machine is no longer ready for operations.	Manually unlock the front wheel brake. (Caution! The appliance does not have any braking effect now!) If unlocking is not possible, then call customer service. Move the machine slowly to the charging station. Charge battery.
Schmutztank voll Reinigung stoppt	sewage tank full cleaning stops	Dirt water reservoir is full.	Empty the dirt water reservoir.
Betriebsstunden auf 0 gesetzt!	operating hours set to 0!	Internal machine error while saving the number of operating hours. During restart, the operating hours are always reset to 0.	None, for information.
Steuerung heiss! Abkühlen lassen!	module temp. high let cool down!	Controls are too hot.	Set main switch to "0". Wait at least 10 minutes. Set main switch to "1".
Fahrmotor heiss! Abkühlen lassen!	drive motor hot! let cool down!	Drive motor has got overheated due to a steep climb or locked brake.	Set main switch to "0". Wait at least 10 minutes. Set main switch to "1". If possible, use the unit only on level surfaces. If required, check the functioning of the immobilising brake and driving pedal.
Schütz offen!! Not-Aus-Taste??	contactor open!! emergency. button?	Press emergency-stop button.	Release emergency-stop button by turning. Set the key switch to "0". Wait at least 10 minutes. Set the key switch to "1".
Abschaltung, Busversorgung fehlt	Shutdown, missing bus supply		Inform Customer Service

### Faults without display on the console

Fault	Remedy
Appliance cannot be started	Insert battery plug.
	Set main switch to "1".
	Check fuse F1, replace if required. *
	Check battery; charge it, if needed
Insufficient water quantity	Check fresh water level, refill tank if necessary.
	Check hoses for blockages; clean if required.
	Clean the fresh water filter.
Insufficient vacuum performance	Clean the seals between dirt water reservoir and cover and check for tightness, replace if required.
	Clean the flat-fold filters at the suction support of the suction turbine.
	Clean the vacuum lips on the vacuum bar, replace if required
	Check suction hose for blockages; clean if required.
	Check the suction hose for tightness; replace if required.
	Check if the cover on the dirt water discharge hose is closed
Insufficient cleaning result	Check the setting of the vacuum bar.
	Set/ adjust contact pressure.
	Check the brushes for wear, replace if required. If the bristles are shorter than 10 mm, the brushes are worn out.
Brushes do not turn	Reduce contact pressure.
	Check if foreign matters block the brushes; remove foreign matter if required.
Optional overall lamp and/or working lamp is not functioning	Check fuse F3, replace if required. *

\* The fuses are located in the flat insertion sockets on the wiring plate and can be accessed by opening the front panel.

### Additional faults in BR/BD...RI models:

Fault	Remedy
Machine is not sweeping properly	Check roller brushes and/or side brushes for wear, replace if necessary.
	Roller brush does not rotate; check drive belt; remove dirt, if required.
	Check function of bulk waste flap
	Check sealing strip for wear, adjust or replace as required.
Sweeper generates a cloud of dust	Empty waste container
	Check drive belts for suction turbine of sweeper.
	Check sealing cover on suction fan
	Check dust filter, clean or replace.
	Check filter case seal
	Check sealing strips for wear, adjust or replace as required
Poor cleaning performance at edges	Set the inclination of the side-brushes; adjust, if required.
	Replace the side brushes

## Technical specifications

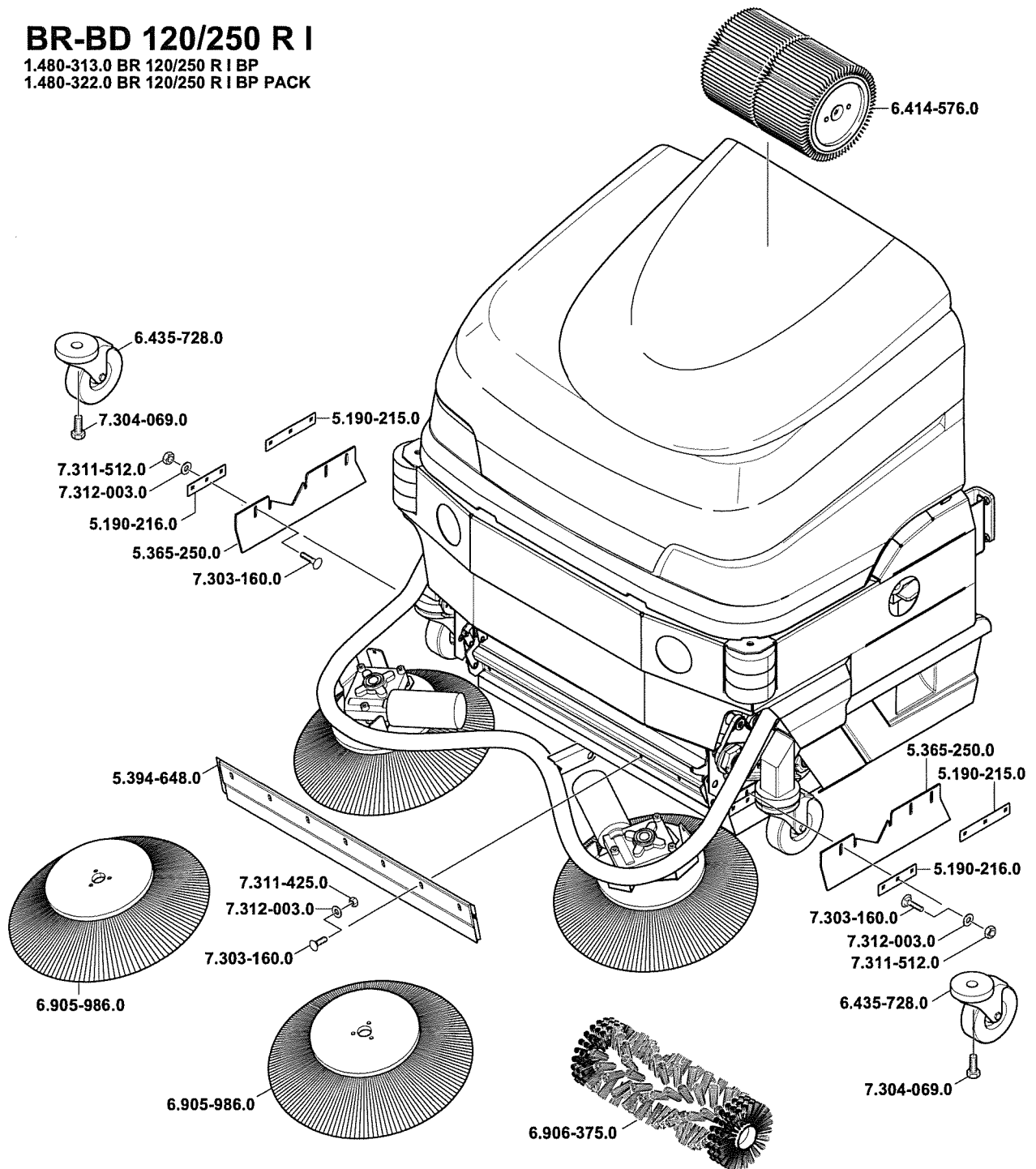
		BR 100/ 250 R	BR 100/ 250 RI	BD 100/ 250 R	BD 100/ 250 RI	BR 120/ 250 R	BR 120/ 250 RI
<b>Power</b>							
Nominal voltage	V	36					
Battery capacity	Ah (5h)	630					
Average power consumption	W	5500	6900	5000	6400	5500	6900
Drive motor output (rated output)	W	1200					
Suction engine output	W	840					
Brush engine output	W	2x 1100		2x 750		2x 1100	
Output of roller brush drive	W	--	600	--	600	--	600
Output of side brush drive (2x)	W	--	2x 100	--	2x 100	--	2x 100
Output of suction turbine of sweeper	W	--	600	--	600	--	600
<b>Vacuuming</b>							
Cleaning power, air quantity	l/s	28					
Cleaning power, negative pressure	kPa	1400					
Cleaning power of sweeper, air quantity	l/s	--	50	--	50	--	50
Suction power of sweeper, negative pressure	kPa	--	1,2	--	1,2	--	1,2
Filter surface area, dust filter	m²	--	4	--	4	--	4
<b>Cleaning brushes</b>							
Working width	mm	1000				1200	
Brush diameter	mm	130		500		130	
Brush speed	1/min	1250		140		1250	
Roller brush diameter	mm	--	285	--	285	--	285
Roller brush width	mm	--	710	--	710	--	710
Roller brush speed	1/min	--	650	--	650	--	650
Side brush diameter	mm	--	450	--	450	--	450
Side brush speed	1/min	--	70	--	70	--	70
<b>Dimensions and weights</b>							
Drive speed (max.)	km/h	6/7,6					
Slope max.	%	15					
Theoretical surface cleaning performance	m²/h	5000				6000	
Fresh/dirt water reservoir volume	l	250					
Volume of waste container	l	--	2x 30	--	2x 30	--	2x 30
Length	mm	1900	2730	1900	2730	1900	2730
Width (without vacuum bar)	mm	1060				1260	
Height	mm	1550					
Permissible overall weight	kg	1723	1970	1723	1970	1723	1970
Transport weight	kg	1575	1775	1575	1775	1595	1795
<b>Surface load (with driver and full fresh water tank)</b>							
Sweeper wheel	N/cm²	--	116	--	116	--	116
Front wheel	N/cm²	207	158	207	158	207	158
Rear wheel	N/cm²	60	63	60	63	60	63
<b>Values determined as per EN 60335-2-72</b>							
Vibration total value on arms	m/s²	<2,5					
Uncertainty K	m/s²	0,2					
Vibration total value on feet	m/s²	<2,5					
Uncertainty K	m/s²	0,2					
Vibration total value on seat area	m/s²	<2,5					
Uncertainty K	m/s²	0,1					
Sound pressure level L <sub>pA</sub>	dB(A)	73	71	73	71	73	71
Uncertainty K <sub>pA</sub>	dB(A)	1					
Sound pressure level L <sub>WA</sub>	dB(A)	88					
Uncertainty K <sub>WA</sub>	dB(A)	1					

## BR-BD 100/250 R I

1.480-311.0 BR 100/250 R I BP  
1.480-321.0 BR 100/250 R I BP PACK  
1.480-411.0 BD 100/250 R I BP  
1.480-421.0 BD 100/250 R I BP PACK

## BR-BD 120/250 R I

1.480-313.0 BR 120/250 R I BP  
1.480-322.0 BR 120/250 R I BP PACK

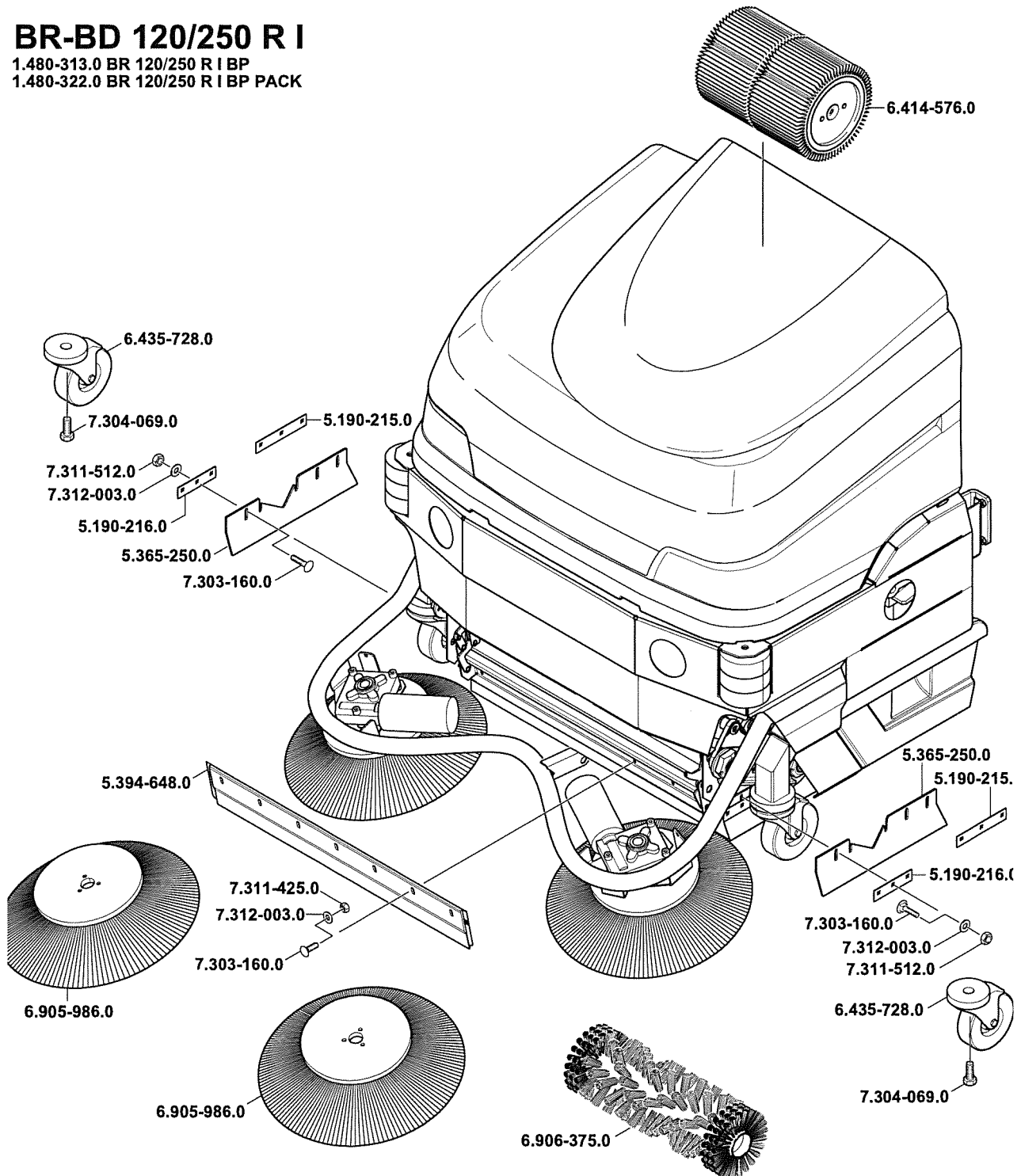


## BR-BD 100/250 R I

1.480-311.0 BR 100/250 R I BP  
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1.480-411.0 BD 100/250 R I BP  
1.480-421.0 BD 100/250 R I BP PACK

## BR-BD 120/250 R I

1.480-313.0 BR 120/250 R I BP  
1.480-322.0 BR 120/250 R I BP PACK



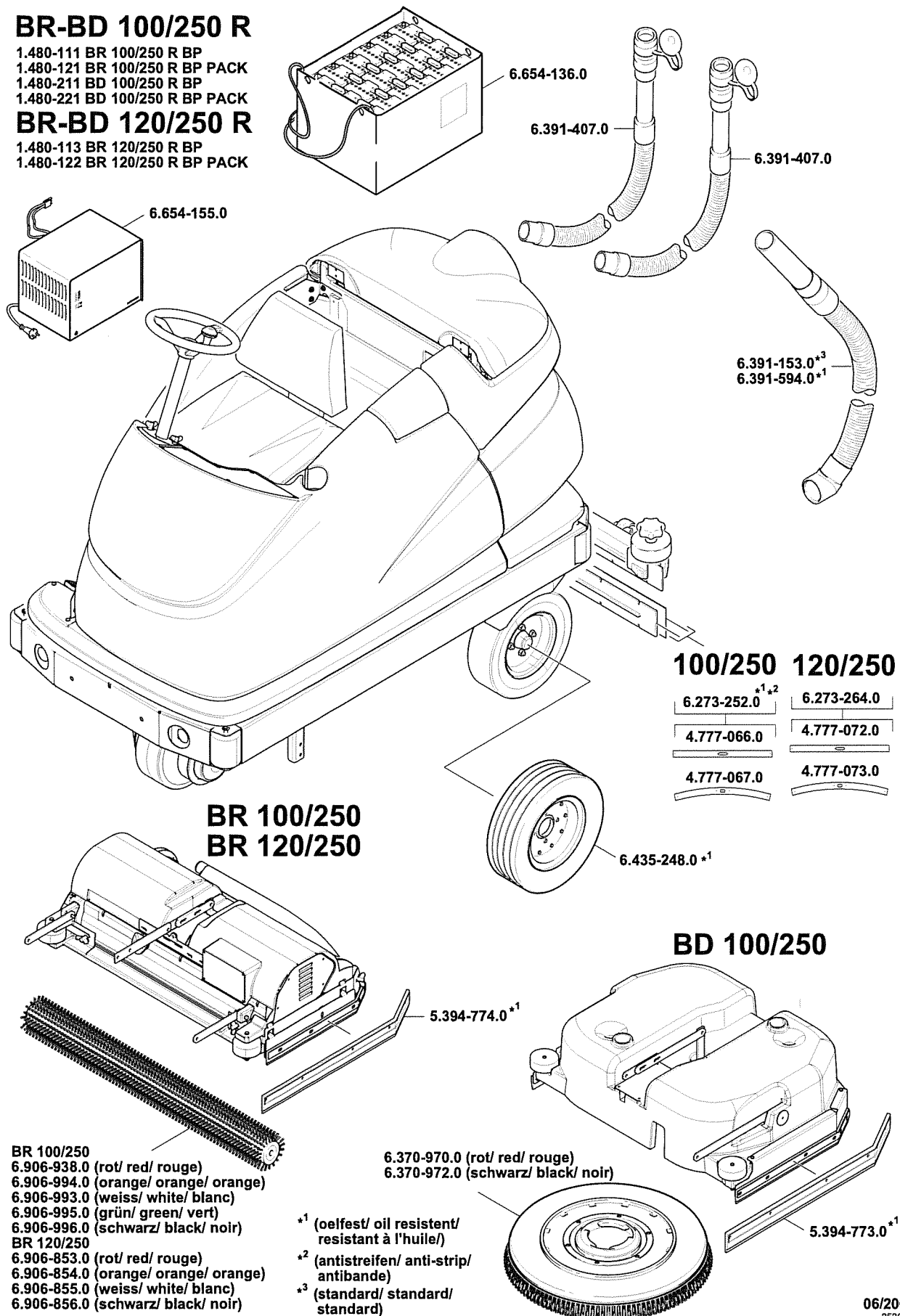


## BR-BD 100/250 R

1.480-111 BR 100/250 R BP  
1.480-121 BR 100/250 R BP PACK  
1.480-211 BD 100/250 R BP  
1.480-221 BD 100/250 R BP PACK

## BR-BD 120/250 R

1.480-113 BR 120/250 R BP  
1.480-122 BR 120/250 R BP PACK



## EC Declaration of Conformity

We hereby declare that the machine described below complies with the relevant basic safety and health requirements of the EU Directives, both in its basic design and construction as well as in the version put into circulation by us. This declaration shall cease to be valid if the machine is modified without our prior approval.

**Product:** Floor cleaner ride-on model

**Type:** 1.246-xxx

**Type:** 1.480-xxx

### Relevant EU Directives

2006/42/EC (+2009/127/EC)

2004/108/EC

### Applied harmonized standards

EN 55014-1: 2006 + A1: 2009

EN 55014-2: 1997 + A2: 2008

EN 60335-1

EN 60335-2-29

EN 60335-2-72

EN 61000-3-2: 2006 + A2: 2009

EN 61000-3-3: 2008


EN 62233: 2008

### Applied national standards

-

The undersigned act on behalf and under the power of attorney of the company management.

  
H. Jenner  
CEO

  
S. Reiser  
Head of Approbation

Authorised Documentation Representative  
S. Reiser

Alfred Kärcher GmbH Co. KG  
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71364 Winnenden (Germany)  
Phone: +49 7195 14-0  
Fax: +49 7195 14-2212

Winnenden, 2011/05/01

## Warranty

The warranty terms published by our competent sales company are applicable in each country. We will repair potential failures of your accessory within the warranty period free of charge, provided that such failure is caused by faulty material or defects in fabrication. In the event of a warranty claim please contact your dealer or the nearest authorized Customer Service center. Please submit the proof of purchase.

## Spare parts

- Only use accessories and spare parts which have been approved by the manufacturer. The exclusive use of original accessories and original spare parts ensures that the appliance can be operated safely and trouble free.
- At the end of the operating instructions you will find a selected list of spare parts that are often required.
- For additional information about spare parts, please go to the Service section at [www.kaercher.com](http://www.kaercher.com).