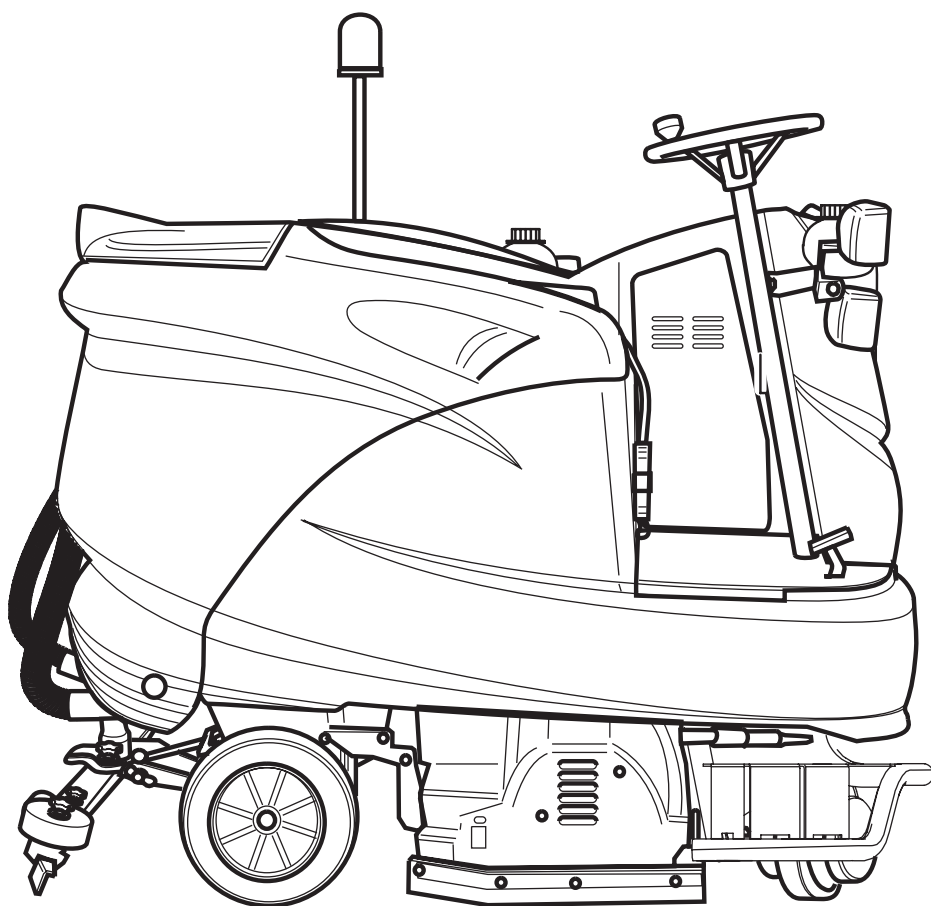


# BR/BD 90/140 R BR/BD 75/140 R Eco



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## Dear Customer,



Please read and comply with these instructions prior to the initial operation of your appliance. Retain these operating instructions for future reference or for subsequent possessors.

## Contents

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| Safety instructions                | 16 |
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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, No. 5.956-251. The machine has been approved for use on surfaces with gradients of up to 10%.

**The machine may only be used when the dirt water tank has been tilted forward and all the lids are closed.**

### Safety Devices

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

#### Battery plug/ Emergency-stop

Pull the battery plug to put all functions out of operation immediately.

#### Safety button

The safety button switches off the drive motor with a delay of 1.5 seconds if the operator leaves his seat when the machine is running.

### Symbols

The following symbols are used in this operating manual:

#### **Danger**

*indicates an immediate threat of danger. Failure to observe the instruction may result in death or serious injuries.*

#### **Warning**

*indicates a possibly dangerous situation. Failure to observe the instruction may result in light injuries or damage to property.*

#### **Note**

*indicates useful tips and important information.*

## 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.
- A working width of 750 mm (BR/BD 75/140) or 900 mm (BR/BD 90/140) and a capacity of 140 l each of the fresh water and dirt water tank enable effective cleaning even if the machine is used for long durations.
- The device is self-moving; the drive motor is fed 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.

#### **Note**

*The appliance can be equipped with various accessories depending on the cleaning task.*

*Please request our catalogue or visit us on the Internet at [www.kaercher.com](http://www.kaercher.com).*

## Proper use

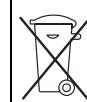
Use this appliance only as directed in these operating instructions.

- 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 has been developed for cleaning floors - floors inside rooms and roofed areas. With respect to other applications the usage of alternative brushes must be checked.
- 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 such 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, Disposal

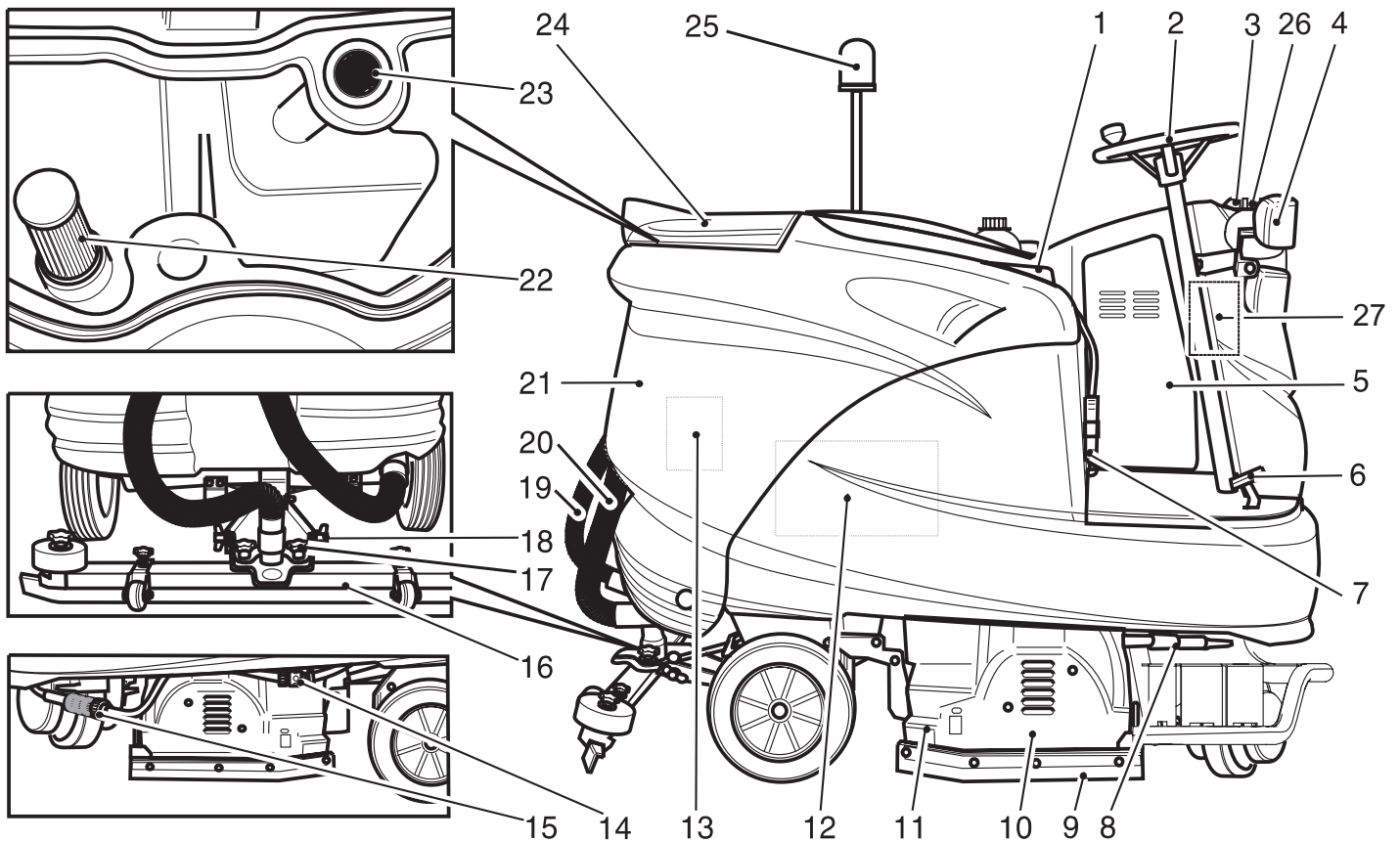


The packaging materials are recyclable. Please do not throw packaging in the domestic waste but pass it on for recycling.



Old units contain valuable recyclable materials. Batteries, oil and similar substances may not be released into the environment. Therefore please dispose of old units through suitable collection systems.

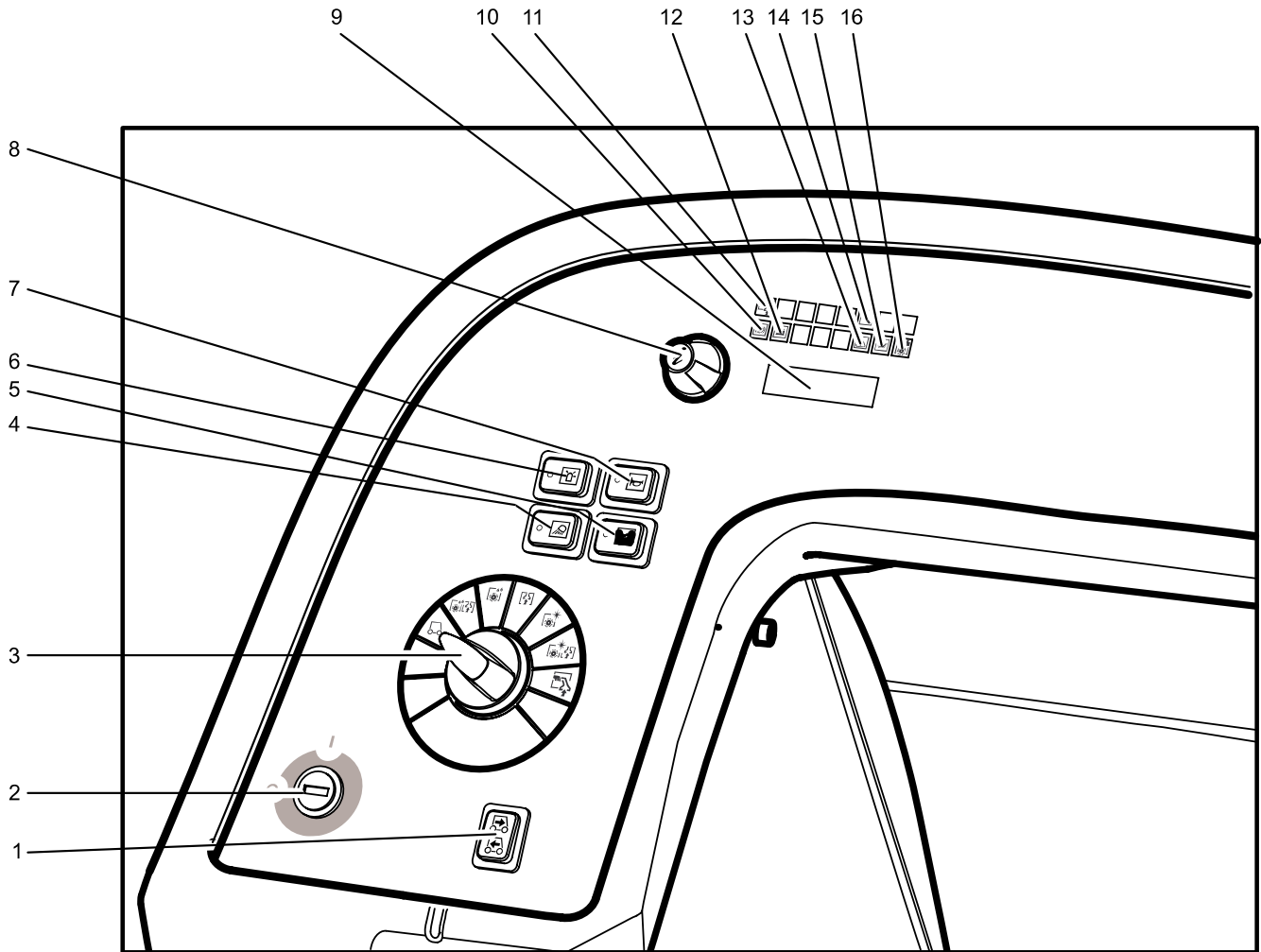
## Operating and Functional Elements



- 1 Seat (with seat contact button)
- 2 Steering wheel
- 3 Fresh water tank lock
- 4 Light (optional)
- 5 Electronics/control
- 6 Drive pedal
- 7 Battery plug/ Emergency-stop
- 8 Switching recycling/ fresh water mode (optional)
- 9 Wiping flap
- 10 Cleaning head
- 11 Waste container (only BR)
- 12 Battery
- 13 Suction turbine
- 14 Hose coupling for draining fresh water
- 15 Fresh water filter
- 16 Vacuum bar \*
- 17 Cross handles for fastening the vacuum bar
- 18 Wing nuts for tilting the vacuum bar
- 19 Suction hose
- 20 Dirt water discharge hose
- 21 Dirt water reservoir
- 22 Recycling filter (optional)
- 23 Fluff filter
- 24 Cover dirt water reservoir
- 25 Overall lamp (optional)
- 26 2.1 l detergent bottle (optional)
- 27 Canister for detergent (optional)

\* not included in the delivery

## Operator console













- 1 Driving direction switch
- 2 Key switch
- 3 Programme switch
- 4 Working lamp button (optional)
- 5 Switch for detergent dosing (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 pro-  
gram active
- 12 Indicator lamp - battery monitoring
- 13 Indicator lamp - fault
- 14 Indicator lamp - service
- 15 Indicator lamp - Dirt water tank full
- 16 Indicator lamp - brush overload

## Before Commissioning

### 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**

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

- Tilt the water tank backwards.
- Insert the battery in the trough.

#### **⚠ Warning**

*Pay attention to correct poles.*

- Connect the connection cable to the free battery poles (+) and (-).
- Tilt the water tank towards the front.

#### **⚠ Warning**

*Charge the battery before commissioning the machine.*

### Charging battery

#### 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 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 opened hood.*

- Empty the dirt water reservoir.
- Tilt the dirt water tank backwards.
- 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.

#### **⚠ Warning**

*Risk of damage!*

- Use only distilled or desalinated water (VDE 0510) for filling the battery.
- Do not add any substances (so-called performance improving agents), else warranty claims will not be entertained.

#### Recommended batteries

| Battery set        | Order No. |
|--------------------|-----------|
| BR/BD 90/140 R     | 6.654-052 |
| BR/BD 75/140 R Eco | 6.654-112 |

#### Recommended chargers

| Charger            | Order No. |
|--------------------|-----------|
| BR/BD 90/140 R     | 6.654-139 |
| BR/BD 75/140 R Eco | 6.654-193 |

Batteries and chargers are available in specialised stores.

#### Maximum battery dimensions

| Length             | Width  | Height |
|--------------------|--------|--------|
| BR/BD 90/140 R     |        |        |
| 620 mm             | 430 mm | 467 mm |
| BR/BD 75/140 R Eco |        |        |
| 622 mm             | 353 mm | 379 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.

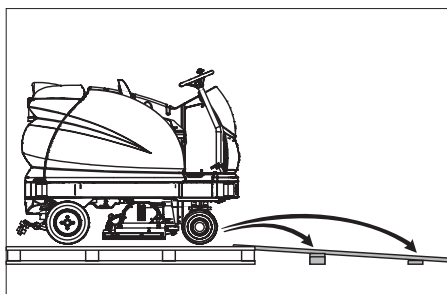
### Unloading

#### Note

*Pull the red battery plug to put all functions out of operation immediately.*

- Cut plastic packing belt and remove foil.
- Remove the elastic tape fasteners at the stop points.
- Four indicated 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.
- ➔ Remove the wooden blocks used for arresting the wheels and slide them under the ramp.
- ➔ Insert battery plug.
- ➔ Set main switch to "1".
- ➔ Press the drive direction switch and slowly move the machine down from the ramp.
- ➔ Set main switch to "0".

### Installing the Brushes

#### BD model

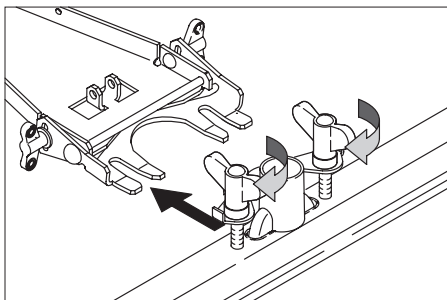
The sweep brushes must be installed before the initial operation (see "Maintenance work").

#### 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 cross-handles.



- ➔ Insert the suction hose.

## Operation

#### Note

Pull the red battery plug to put all functions out of operation immediately. Carry out the initial trials in an open surface so that you familiarise yourself with the appliance.

### 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.
- ➔ 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.

### Brakes

#### ⚠ 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 pull the battery plug in the sense of an emergency-stop button for safety reasons only if the mechanical functioning of the immobilizing brake has been checked properly before starting up the machine.
- ➔ Always pull the battery plug on plane surfaces below 2% inclination.
- ➔ 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.

### Driving

#### ⚠ Danger

*Danger of tipping if gradient is too high.*

- ➔ *The gradient in the direction of travel should not exceed 10%.*

*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 10%.*

#### Note

*The machine is designed in such a way that the brush head protrudes on the right. This helps in working in a proper way even close to the edges.*

- ➔ 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 the drive pedal.

#### 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.
- ➔ Set main switch to "0".
- ➔ Wait for a while.
- ➔ Set main switch to "1".

### 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.*

#### Note

*Do not use highly foaming detergents.*

Recommended detergents:

| Application  | Detergent     |
|--|---------------|
| Routine cleaning of all water resistant floors                 | RM 780 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 stone-ware 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.

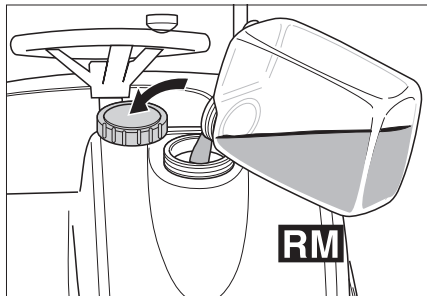
#### Note

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

## Working without automatic detergent dosing

While cleaning floors in hygiene-related areas (such as hospitals, supermarkets) and for thoroughly cleaning very dirty floors.

- Open the cover of the fresh water reservoir.
- Fill up fresh water (maximum 60 °C) until the lower edge of filling nozzle.
- Add detergent. Follow dosing instructions for detergent.



- Close the cover of the fresh water reservoir.

## Dosing equipment for detergent (optional)

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

### ⚠ Warning

*Risk of damage to the dosing equipment. Do not add detergent to the fresh water reservoir.*

### Note

*The dosing equipment can be used to add 3% of detergent at maximum.*

- Place the detergent bottle in the holder in the front on the fresh water reservoir.
- Close the bottle lid.
- Insert the suction hose of the dosing equipment into the bottle. Ensure that the sieve of the suction hose is lying at the base of the bottle.
- Close the bottle using the lid of the dosing equipment.

You can check the filling level of the bottle through a vertical view window.

If the filling level of the detergent reaches the bottom of the bottle:

- Add detergent or replace detergent bottle.

### ⚠ Warning

*If you want to change the detergent type, then first rinse the suction hose thoroughly using fresh water (for 60 seconds using maximum quantity of water and 3% dosing) in order to avoid chemical reactions.*

### Note

*When the detergent bottle is fully emptied, then operate the dosing equipment for 60 seconds with maximum quantity of water and 3% dosing so that the suction hose is again fully filled up with the detergent.*

### Note

*While refilling or replacing the detergent bottle, hang in the suction hose of the dos-*

*ing equipment into the opened fresh water tank so that no detergent drops fall on the floor.*

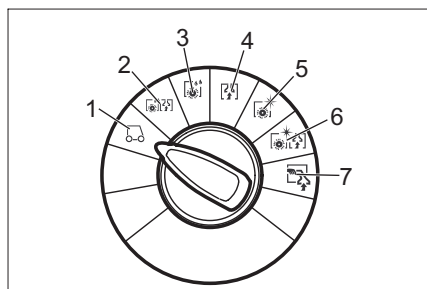
### Note

*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.*

### Note

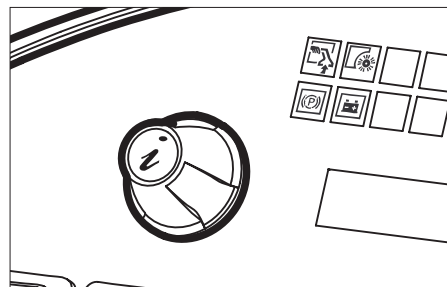
*As soon as the detergent pump starts running, this is indicated through a blinking "C" in the display.*

## Cleaning Programs



- 1 Driving  
Driving to the Place of Use.
- 2 Scrubbing suction  
Wet clean the floor and vacuum up dirt water.
- 3 Wet scrubbing  
Wet clean the floor and allow the detergent to react.
- 4 Vacuuming  
Suck in the dirt fleet.
- 5 Polishing  
Polishing the floor without the application of liquid.
- 6 Scrub the floor without applying water (vacuum polishing)  
Polish the floor without applying any fluid and suck in the polishing dust.
- 7 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 polishing 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        | 1=min., 8=max.                         |
| Dosing equipment for detergent (optional) | 0,5%:0,5%:3% | 0.5=min., 3=max.                       |
| Brush pressure                            | 0:1:8        | 0=min., 8=max.                         |
| FACT (brush speed)                        | –            | Power Clean, Whisper Clean, Fine Clean |
| Brush rotation time after stop            | 0s:1s:3s     | From idling to lifting                 |
| Working speed                             | 1:1:8        | 1=1km/h, 8=6km/h                       |

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

|  | Water quantity | Brush pressure | Working speed |
|---|----------------|----------------|---------------|
| Scrubbing suction   | 5              | 4              | 4             |
| Wet scrubbing   | 5              | 4              | 4             |
| Dry vacuum cleaning   | –              | –              | 4             |
| Polishing   | –              | 4              | 4             |
| Polish suction  | –              | 4              | 4             |

|                   | Dosing equipment for detergent (optional) | FACT (brush speed) | Brush rotation time after stop |
|-------------------|---|--------------------|--------------------------------|
| Scrubbing suction | 1%  | P                  | 2s                             |
| Wet scrubbing     | 1%  | P                  | 2s                             |
| Polishing         | –   | P                  | 0s                             |
| Polish suction    | –   | P                  | 0s                             |
| P=Power Clean     |   |                    |                                |

## Switch on the dosing equipment for detergent (optional)

- Activate the switch for detergent dosing. Detergent gets added automatically.

### Note

You can set the detergent dosing in the Operations menu.

### Note

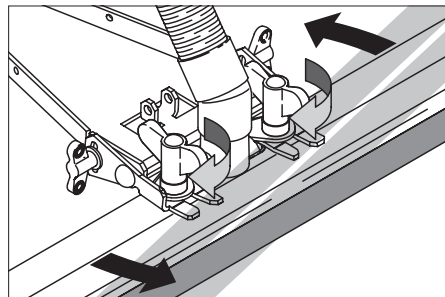
As soon as the detergent pump starts running, this is indicated through a blinking "C" in the display.

## 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°.

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

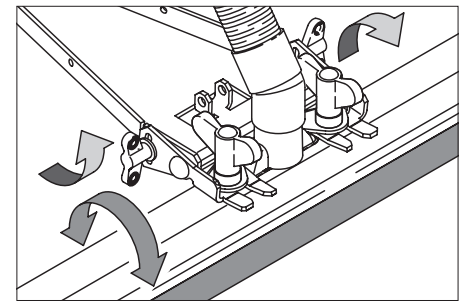


- Tighten the cross-handles.

### 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.

## Empty tanks.

### Drain off dirt water

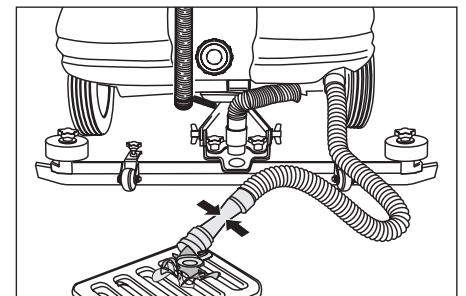
#### Note

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.

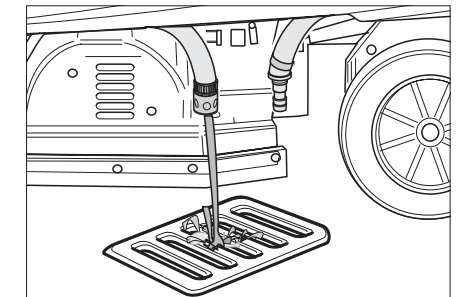
- Take the water discharge hose from the support and lower above a suited collection device.



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

### Drain off clean water

- Remove the suction hose coupling for draining off the fresh water and hold it over a suitable container.



## Transport

#### Danger

Risk of injury! When loading or unloading the machine, it may only be operated on gradients of max. 10%. Drive slowly.

- If you want to transport the machine on a vehicle secure it from slipping using belts/ ropes.

## BD model

- Remove brushes from the brush head.

## Maintenance and care

### ⚠ Danger

*Risk of injury! Before carrying out any tasks on the machine, set the main key to "0" and remove it. Pull out the battery plug.*

### Note

*Suction turbine will continue to run for a while after switch-off. Carry out maintenance tasks only after the suction turbine has come to a halt.*

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

## Maintenance schedule

### After each operation

### ⚠ Warning

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

- Drain off dirt water.
- Rinse the dirt water tank with clear water.
- Check the fluff 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.

### 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 function of the immobilizing brake.
- Check the acid density of the cells if the batteries are not maintenance-free batteries.
- Clean the brush tunnel (only BR model).

### Yearly

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

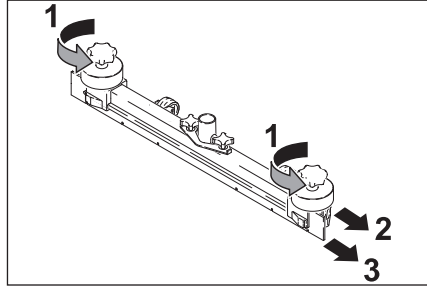
## Maintenance Works

### 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

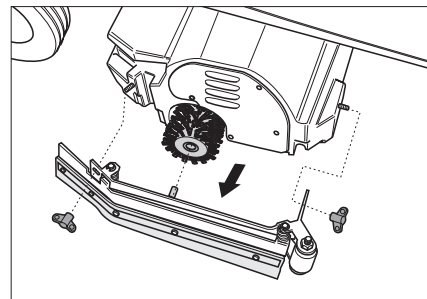
- Remove the vacuum bar.
- Loosen cross-handles.



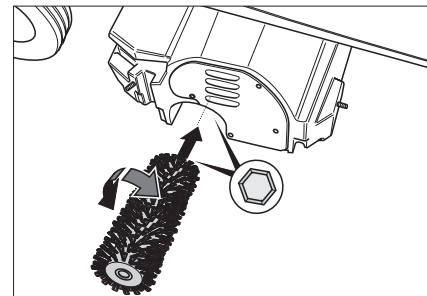
- Remove the plastic parts.
- Remove the vacuum lips.
- Insert new vacuum lips.
- Insert the plastic parts.
- Tighten the cross-handles.

## 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.

## Frost protection

In case of danger of frost:

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

## Faults

### ⚠ Danger

*Risk of injury! Before carrying out any tasks on the machine, set the main key to "0" and remove it. Pull out 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 (F4) – Supply to stroke and accessories module.

### Note

*Defective fuses (F2, f3) 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:

- Set main switch to "0".
- Wait till the text on the display has disappeared.

- Set main switch to "1".

Carry out the troubleshooting measures in the given sequence only if the fault occurs again. The key switch must be in position "0" and the battery plug must have been pulled out.

- 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   |
|---|------------------------------------|--|--|
| Seat switch broken                      | seat switch open                   | Seat contact switch has not been activated.  | The machine operates only if the operator is seated on the seat.   |
| Release accelerator!                    | 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.  |
| battery empty -> charge!                | 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.  |
| battery totally discharged!             | 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. |
| Dirt reservoir full, cleaning stopped   | sewage tank full cleaning stops    | Dirt water reservoir is full.  | Empty the dirt water reservoir.  |
| Operating hours set to 0!               | 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.   |
| Module temperature high! Let cool down! | 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".  |
| Drive motor hot! Let it cool down!      | drive motor hot! let it 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.                      |
| Contactors open!!                       | contactors open!!                  | Defective controls.  | Set main switch to "0". Wait at least 10 minutes. Set main switch to "1".  |
| Shut down, missing bus supply           | 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 required.  |
| 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                                 | Set/ adjust contact pressure.  |
|  | Check the brushes for wear, replace if required.   |
| 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 F4, 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.

## Accessories

| Description                          | Part no. BR 75/140 | Part no. BR 90/140 | Description  | Piece | Appliance needs the piece BR 75 (BR 90) |
|--------------------------------------|--------------------|--------------------|--|-------|---|
| Brush roller, white (soft)           | 6.906-496          | 6.906-010          | For polishing and cleaning sensitive floors.   | 1     | 2                                       |
| Brush roller, red (medium, standard) | 5.762-285          | 6.906-007          | Also for regular cleaning of heavily dirtied floors.   | 1     | 2                                       |
| Brush roller, orange (high/ low)     | 6.906-495          | 6.906-009          | For scrubbing structured floors (safety tiles, etc.).  | 1     | 2                                       |
| Brush roller, green (hard)           | 6.906-494          | 6.906-008          | For thoroughly cleaning heavily dirtied floors and for removing the coating (for e.g. of wax, acrylate). | 1     | 2                                       |
| Brush roller, black (very hard)      | 6.906-497          | 6.906-252          |  | 1     | 2                                       |
| Pad roller shaft                     | 4.762-316          | 4.762-189          | For intake of roller pads.   | 1     | 2                                       |
| Roller pad, white (very soft)        | 6.369-389          | 6.369-389          |  | 20    | 2 (3)                                   |
| Roller pad, yellow (soft)            | 6.369-454          | 6.369-454          | For polishing floors.  | 20    | 2 (3)                                   |
| Roller pad, red (medium)             | 6.369-456          | 6.369-456          | For cleaning slightly dirtied floors.  | 20    | 2 (3)                                   |
| Roller pad, green (hard)             | 6.369-455          | 6.369-455          | For cleaning normal to heavily dirtied floors.   | 20    | 2 (3)                                   |
| Rubber limp for floor working head   | 5.394-640          | 5.394-640          | Standard   | 1     | 2                                       |
| Rubber limp for floor working head   | 5.394-754          | 5.394-754          | extra tough  | 1     | 2                                       |

| Description                        | Part no. BD 75/140 | Part no. BD 90/140 | Description  | Piece | Appliance needs the piece BD 75 (BD 90) |
|------------------------------------|--------------------|--------------------|--|-------|---|
| Disk brush, natural (white)        | 6.369-492          | 6.906-056          | For polishing floors.                              | 1     | 2                                       |
| Disk brush, red (medium, standard) | 6.906-346          | 6.906-054          | For cleaning slightly dirtied or sensitive floors. | 1     | 2                                       |
| Disk brush, black (hard)           | 6.906-491          | 6.906-055          | For cleaning heavily dirtied floors.               | 1     | 2                                       |
| Driver plate                       | 6.906-493          | 6.906-332          | For intake of pads.                                | 1     | 2                                       |
| Disc pad, red (medium)             | 6.369-791          | 6.369-024          | For cleaning slightly dirtied floors.              | 5     | 2                                       |
| Disc pad, green (hard)             | 6.369-790          | 6.369-023          | For cleaning heavily dirtied floors.               | 5     | 2                                       |
| Disc pad, black (very hard)        | 6.369-789          | 6.369-022          | For cleaning heavily dirtied floors.               | 5     | 2                                       |
| Rubber lip, grey                   | 6.273-214          | 6.273-214          | Standard   | 20    | 2 (3)                                   |
| Rubber lip, oil-resistant          | 6.273-208          | 6.273-208          | oil-resistant                                      | 20    | 2 (3)                                   |
| Vacuum bar, straight               | 4.777-049          | 4.777-049          | Standard   | 1     | 1                                       |
| Vacuum bar, bent                   | 4.777-056          | 4.777-056          | Standard   | 1     | 1                                       |
| Rubber limp for floor working head | 5.394-640          | 5.394-640          | Standard   | 1     | 2                                       |
| Rubber limp for floor working head | 5.394-754          | 5.394-754          | extra tough  | 1     | 2                                       |

## Attachment sets

|  |           |   |
|--|-----------|---|
| Attachment set for spray suction               | 2.640-186 | Simplifies cleaning of inaccessible areas             |
| Attachment set for recycling operations        | 2.640-201 | Increases the running time without having to tank up. |
| Attachment set: roof cover (only BR/BD 90/140) | 2.640-185 | Protects against falling objects                      |
| Attachment set: overall lamp                   | 2.640-108 |   |
| Attachment set: working lamp                   | 2.640-109 |   |
| Attachment set: backrest                       | 2.640-681 |   |

## Specifications

|  |                   | BR 90/140 R | BR 75/140 R<br>Eco | BD 90/140 R | BD 75/140 R<br>Eco |
|--|-------------------|-------------|--------------------|-------------|--------------------|
| <b>Power</b>                             |                   |             |                    |             |                    |
| Nominal voltage                          | V                 | 24          | 24                 | 24          | 24                 |
| Battery capacity                         | Ah (5h)           | 400         | 240                | 400         | 240                |
| Average power consumption                | W                 | 3100        | 2100               | 2800        | 2100               |
| Drive motor output (rated output)        | W                 | 600         | 600                | 600         | 600                |
| Suction engine output                    | W                 | 800         | 800                | 800         | 800                |
| Brush engine output                      | W                 | 2x 750      | 2x 600             | 2x 600      | 2x 600             |
| <b>Vacuuuming</b>                        |                   |             |                    |             |                    |
| Cleaning power, air quantity             | l/s               | 28          | 28                 | 28          | 28                 |
| Cleaning power, negative pressure        | kPa               | 14          | 14                 | 14          | 14                 |
| <b>Cleaning brushes</b>                  |                   |             |                    |             |                    |
| Working width                            | mm                | 900         | 750                | 900         | 750                |
| Brush diameter                           | mm                | 110         | 110                | 460         | 400                |
| Brush speed                              | 1/min             | 1300        | 1200               | 180         | 160                |
| <b>Dimensions and weights</b>            |                   |             |                    |             |                    |
| Drive speed (max.)                       | km/h              | 6           | 6                  | 6           | 6                  |
| Climbing capability (max.)               | %                 | 10          | 10                 | 10          | 10                 |
| Theoretical surface cleaning performance | m <sup>2</sup> /h | 3000        | 3000               | 3600        | 3600               |
| Fresh/dirt water reservoir volume        | l                 | 140/140     | 140/140            | 140/140     | 140/140            |
| Length                                   | mm                | 1550        | 1550               | 1550        | 1550               |
| Width                                    | mm                | 940         | 870                | 940         | 870                |
| Height                                   | mm                | 1340        | 1340               | 1340        | 1340               |
| Weight (with/ without battery)           | kg                | 550/230     | 550/230            | 550/230     | 550/230            |
| <b>Noise emission</b>                    |                   |             |                    |             |                    |
| Sound pressure level (EN 60704-1)        | dB(A)             | 70          | 70                 | 70          | 70                 |
| <b>Machine vibrations</b>                |                   |             |                    |             |                    |
| Vibration total value (ISO 5349)         |                   |             |                    |             |                    |
| Arms, steering wheel                     | m/s <sup>2</sup>  | 0,1         | 0,1                | 0,1         | 0,1                |
| Feet, pedal                              | m/s <sup>2</sup>  | 0,1         | 0,1                | 0,1         | 0,1                |
| Seating                                  | m/s <sup>2</sup>  | 0,1         | 0,1                | 0,1         | 0,1                |

### 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 cleaning machine Seat mechanism

TYPE: 1.438-xxx, 1.439-xxx

Relevant EU Directives:

98/37/EC73/23/EEC (+93/68/EEC)89/336/EEC (+91/263/EEC, 92/31/EEC, 93/68/EEC)

Applied harmonized standards:

DIN EN 60 335-1DIN EN 60 335-2-29

DIN EN 60,335 -2 -72

DIN EN 55,014 -1: 2000 + A1: 2001 + A2:

2002DIN EN 55 014 -2: 1997 + A1:

2001DIN EN 61 000-3-2: 2000DIN EN 61

000 -3 -3: 1995 + A1: 2001

Applied national standards:

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Appropriate internal measures have been taken to ensure that the series appliances always comply with the requirements of the currently valid EU Directives and the ap-

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

#### 5.957-712 (01/05)

Alfred Kärcher Kommanditgesellschaft. Location: Winnenden. Registration Court: Waiblingen, HRA 169.

Individually liable associate. Kärcher Reinigungstechnik GmbH. Head office: Winnenden, 2404 Register court: Waiblingen, HRB

Executive directors: Dr. Bernhard Graf, Hartmut Jenner, Georg Metz

Alfred Kärcher GmbH Co. KG

Cleaning Systems

Alfred-Kärcher-Str. 28-40

P.O. Box 160

D -71349 Winnenden

Tel.:++49 7195 14-0

Fax :++49 7195 14-2212

  
H. Jenner

  
S. Reiser

### Warranty

The warranty terms published by our competent sales company are applicable in each country. We will repair potential failures of your appliance 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.

## Charger for package model

### Safety instructions

Please read and comply with these instructions prior to the initial operation of your charger. Please follow the instructions of the battery manufacturer.

#### **⚠ Danger**

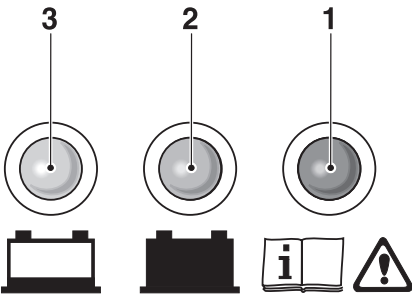
- Keep children away from batteries and charger.
- Do not change the charger plug.
- Use the charger only with the recommended batteries. If you connect wrong batteries, the batteries may get overheated, boiled and can explode.
- The charger may only be used in the assembly position indicated by the factory.

### Proper use

Use this charger only as directed in these operating instructions.

- The charger should only be used for charging lead-operated batteries that are in perfect condition.
- The charger may only be used for maintenance-free lead batteries with a voltage of 24 Volt.
- The charger may only be used if the mains supply has the following fuses: Safety fuse with at least 10 A gL or automatic cut-out of 10 A (B or C property).

### Indicator lamps



- 1 red LED lights up = Problem with charger/ battery; inform Customer Service
- 2 green LED lights up = battery is full
- 3 yellow LED lights up = battery is being charged

## Start up

#### **⚠ Danger**

*Risk of explosion!*

- Do not operate the batteries in the open, on traffic routes, in explosion-hazard rooms or in rooms with power-conductible dust.
  - The battery charging process can give rise to explosive substances. Do not smoke in the vicinity of batteries and charger. Avoid formation of flames and sparks.
  - Do not block the air slits of the appliance while charging the batteries. Always keep the hood of the cleaning machine open during the charging process.
- ➔ Connect the mains plug of the charger to a earthed socket of 230 V mains supply. The charging process starts automatically.

### Maintenance

The charger is maintenance-free. However, as some parts are prone to wear and tear, we recommend that you get the charger checked regularly by a technician. The appliance may only be opened and repaired by an electro-technician. Please contact your Customer Service agent.

### Specifications

|                              |                           |
|------------------------------|---------------------------|
| Mains voltage                | 220-230 V, 50 Hz          |
| Output voltage               | 24 V                      |
| Output current               | max. 50 A                 |
| Output current Eco           | max. 36 A                 |
| Charging feature             | IUIa with retention phase |
| Ambient temperature          | 0 -40 °C                  |
| Air humidity, non-condensing | 0-90%                     |
| Weight                       | 5.5 kg                    |
| Type of protection           | IP 20                     |
| Protective class             | I                         |
| Dimensions (h x b x d)       | 85x219x308 mm             |



