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BR 30/4 C BR 30/4 C Bp Pack Service Manual



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1 Preface

Good service work requires extensive and practice-oriented training as well as well-structured training materials. Hence we offer regular basic and advanced training programmes covering the entire product range for all service engineers.

In addition to this, we also prepare service manuals for important appliances - these can be initially used as instruction guides and later on as reference guides.

Apart from this, we also regular information about product enhancements and their servicing.

If you should require supplements, have corrections or questions regarding this document, please address these citing the following subject to:

international-service@de.kaercher.com

Subject:	Case 111410
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The responsible product specialist will take care of your issue.

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2 Safety instructions

2.1 Hazard levels

⚠ 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.

3 Technical Features

The appliance is used for the wet cleaning of level floors. A working width of 300 mm and a capacity of 4 l each of the fresh and dirt water reservoirs enable an effective cleaning of smaller surfaces.

The power supply operation allows a high capacity without a restriction of the working time.

3.1 Operation and control

- The appliance can be used in a forward motion by pushing it and backwards by pulling it by the handle.

3.2 Water System

The fresh water tank must be filled with the correct mixture of water and detergent prior to operation. The detergent solution flows to the brush head via a water pump and is revacuumed by two vacuum bars.

- Content of fresh water tank: 3.7 l
- Content of waste water tank: 3.7 l

3.3 Vacuuming operations

The suction turbine (M1) produces a vacuum pressure in the waste water tank, which pulls the wastewater from the vacuum bar to the waste water tank.

If the waste water tank is full, the float closes the suction opening.

The waste water tank can be removed from the appliance for cleaning purposes.

NOTICE

The suction turbine (M1) does not switch off automatically when the wastewater reservoir is full. Only when you press the main switch, the suction turbine (M1) will shut off.

For the appliances BR 30/4 C and BR 30/4 C Bp Pack, it is possible to lift the suction bar and perform a wet cleaning only.

The BR 4.300 does not have a suction bar lift.

3.4 Vacuum bar

The vacuum bar can be replaced without the use of tools.

3.5 Electrical system

The switches for the operation of the appliance are located in the handle and on top of the housing.

- The main switch (S1) for brushing and vacuuming operations are located on top of the housing.
- The switch (S2) for the operation of the water pump (M3) is located in the handle.

Mains models

- 230V / 50/60Hz / 16A.
- 120V / 60Hz / 15A
- 100V / 50/60Hz / 7A

BR 30/4 C Bp Pack

- One battery with 36V / 7.5Ah

3.6 Cleaning operations

The brush contact pressure cannot be adjusted.

The brush roller has a diameter of 60 mm. It rotates at 1,450 rpm for the mains model and at 1,270 for the battery model.

BR 30/4 C Adv

To vacuum in corners, a vacuuming nozzle can be attached to the vacuum pipe of this model.

4 Setup and function

4.1 Front view (BR 30/4 C Adv and BR 30/4 C)



- 1 Handle
- 2 Cable hook
- 3 Main switch for brushing/vacuuming operations
- 4 Fresh water tank lock
- 5 Release, park position
- 6 Vacuum bar lift pedal
- 7 Cleaning head
- 8 Fresh water tank
- 9 Fresh water level display
- 10 Release of fresh water reservoir
- 11 waste water tank
- 12 Release, waste water tank
- 13 Carrying handle
- 14 Water pump switch

4.2 Front view (BR 30/4 C Bp Pack)



- | | |
|---|-----------------------------|
| 1 Handle | 15 Battery |
| 2 Main switch for brushing/vacuuming operations | 16 Mains connection |
| 3 Fresh water tank lock | 17 Charger |
| 4 Release, park position | 18 Battery charge indicator |
| 5 Vacuum bar lift pedal | |
| 6 Cleaning head | |
| 7 Battery
36 V / 7.5 Ah | |
| 8 Fresh water tank | |
| 9 Fresh water level display | |
| 10 Release of fresh water reservoir | |
| 11 waste water tank | |
| 12 Release, waste water tank | |
| 13 Carrying handle | |
| 14 Water pump switch | |

4.3 Front view (BR 30/4 C Bp Pack Power +)



- 1 Handle
- 2 Water pump switch
- 3 Main switch for brushing/vacuuming operations
- 4 Release of fresh water reservoir
- 5 waste water tank
- 6 Release, waste water tank
- 7 Fresh water level display
- 8 Fresh water tank
- 9 Battery
36 V / 7.5 Ah
- 10 Cleaning head
- 11 Carrying handle
- 12 Fresh water tank lock
- 13 Battery
- 14 Release, park position

- 15 Charger
- 16 Vacuum bar lift pedal
- 17 Indicator lamp
- 18 Mains connection

4.4 Rear view (BR 30/4 C Adv and BR 30/4 C / BR 30/4 C Bp Pack)



- 1 Handle
- 2 Cable hook
- 3 Cable hook, rotating
- 4 Vacuum nozzle intake
- 5 Exhaust air cover
- 6 Suction hose
- 7 Release, park position
- 8 Suction tube connection
- 9 Suction tube
- 10 Bellow
- 11 Vacuum bar holder (BR 30/4 C Adv only)
- 12 Suction nozzle (BR 30/4 C Adv only)
- 13 Vacuum bar (BR 30/4 C Adv only)
- 14 Suction tube handle (BR 30/4 C Adv only)

4.5 View from below



- 1 Park roller
- 2 Space roller
- 3 Rear vacuum bar
- 4 Brush roller
- 5 Front vacuum bar
- 6 Space roller

The spacer rollers prevent the cleaning head from scraping on the floor when the brush is worn.

4.6 Function

4.6.1 Parking/operating position



→ To operate, the release of the parking position must be pressed (small arrow) and the appliance has to be swivelled back simultaneously. The parking roller submerges into the cleaning head and the brush roller touches the floor.

4.6.2 Raising/lowering the vacuum bar



- 1 Pedal position, vacuum bar raised
- 2 Vacuum bar lift pedal
- 3 Pedal position, vacuum bar lowered

The vacuum bars can be raised or lowered using the pedal for the vacuum bar lift.

NOTICE

Turn the appliance off before you activate the suction bar lift. Otherwise, the brush drive can be triggered. The BR 4.300 does not have a suction bar lift.

4.6.3 Removing the tanks



- 1 waste water tank
- 2 Fresh water tank
- 3 Wastewater inlet opening with seal
- 4 Suction tube
- 5 Funnel for fresh water inlet
- 6 Suction air channel
- 7 Suction air stub with seal

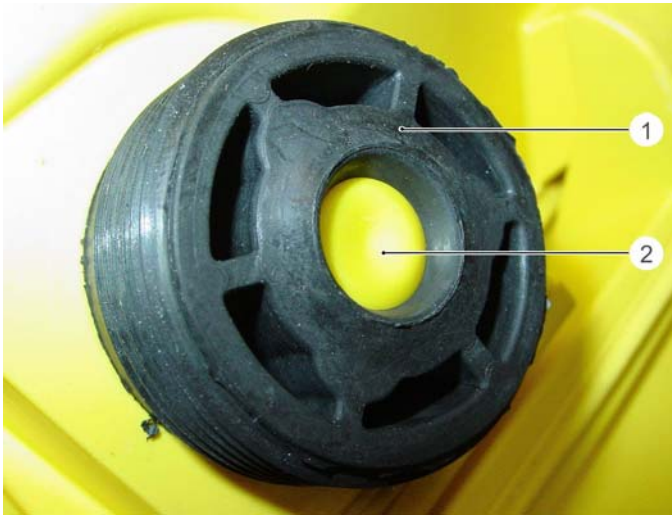
→ The fresh water tank and the waste water tank can be removed to fill, empty and clean the appliance.



- 1 Fresh water tank
- 2 Fresh water tank lock
- 3 Release of fresh water reservoir

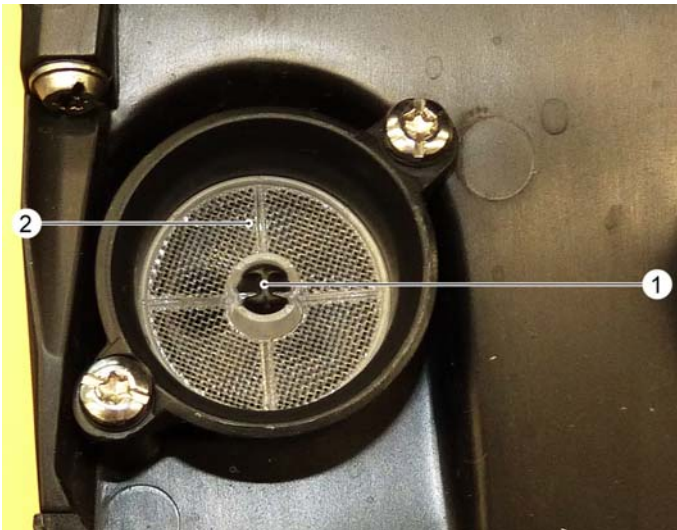
→ Pull on the release and remove the fresh water reservoir from the appliance toward the front.

➔ To fill the fresh water tank, open the latch and fill the fresh water tank with water and detergent.



- 1 Water outlet valve
- 2 Tappet

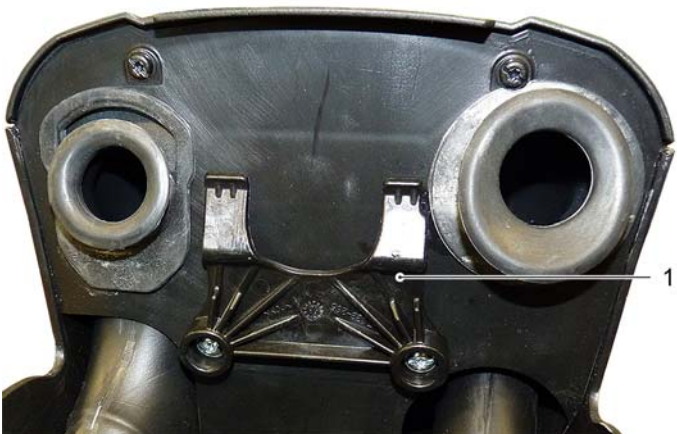
➔ The water outlet valve is located at the bottom of the fresh water reservoir.



- 1 Valve pin
- 2 Sieve

➔ When inserting it into the appliance, the valve pin pushes the tappet into the water outlet valve and the water can flow to the water pump (M2).

➔ The contaminated sieve can be removed for cleaning.



- 1 Spring element

The spring element pushes the waste water tank down. This will prevent damage to the seal rings during the installation of the waste water tank.



- 1 waste water tank
- 2 Release, waste water tank

➔ Push the release for the waste water tank down and remove the waste water tank from the appliance toward the front.



- 1 waste water tank
- 2 Cover dirt water reservoir
- 3 Air suction opening
- 4 Wastewater inlet opening
- 5 Lock, lid

➔ The lid of the waste water tank houses the air suction opening and the wastewater inlet opening.

➔ In order to remove the lid, open the lock and pull the lid off the wastewater reservoir upwards.



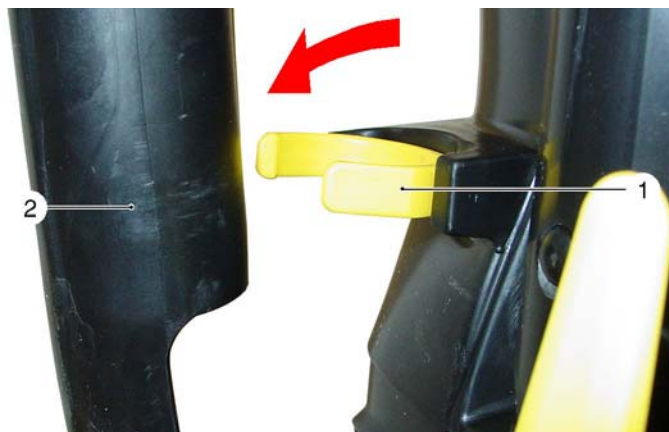
- 1 Wastewater inlet opening
- 2 Water separator
- 3 Cover dirt water reservoir
- 4 Seal
- 5 Floater seal
- 6 Locking flap
- 7 Float

→ The floater is located in the lid. This floater closes up the air suction opening and suctioning is no longer possible.

→ The waste water tank needs to be emptied.

4.6.4 Insert suction nozzle (BR 30/4 C Adv only)

With model BR 30/4 C Adv, a suction nozzle can be attached to vacuum in corners.



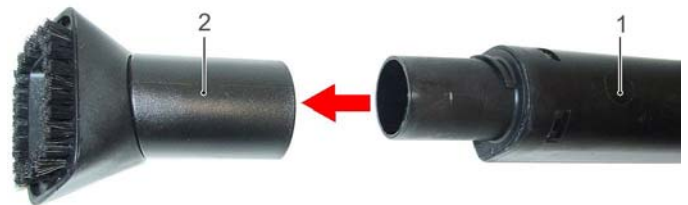
- 1 Suction pipe holder
- 2 Suction tube

→ Remove the suction pipe from the suction pipe holder.



- 1 Suction nozzle
- 2 Suction tube connection
- 3 Suction tube

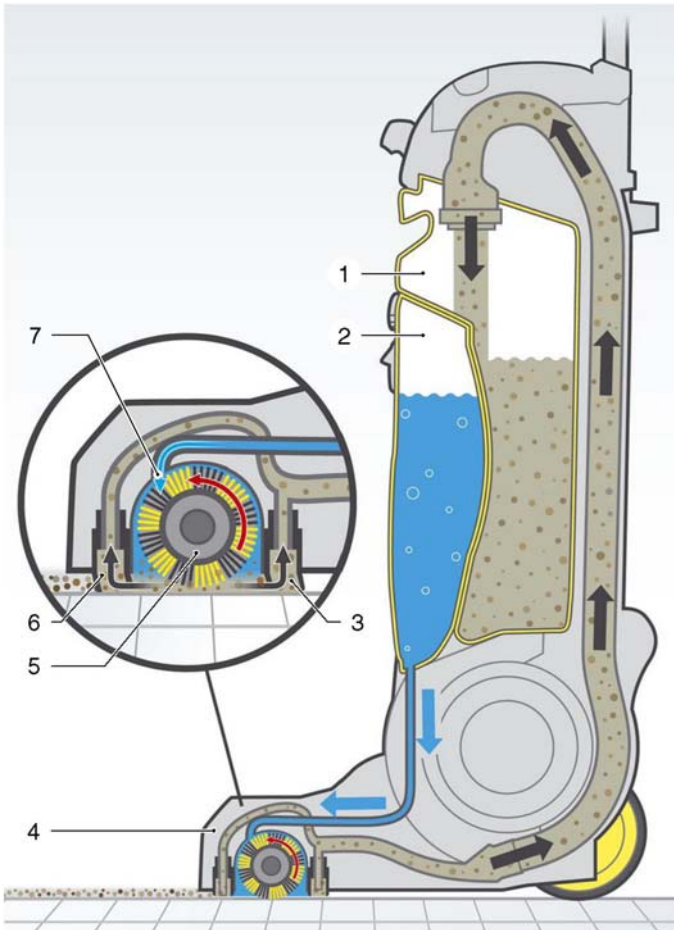
→ Pull the suction pipe out of the suction pipe connection toward the top.



- 1 Suction tube
- 2 Suction nozzle

→ Attach the suction nozzle to the suction pipe.

4.6.5 Water flow schematic



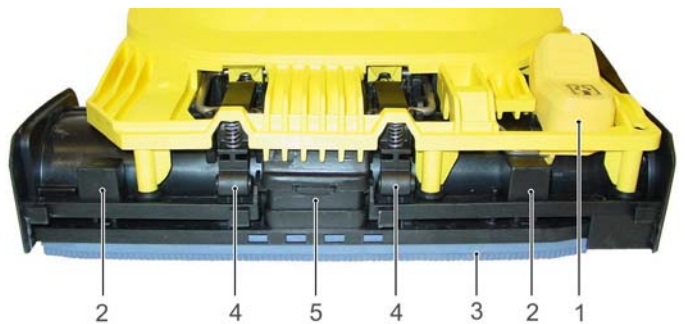
- 1 waste water tank
- 2 Fresh water tank
- 3 Rear vacuum bar
- 4 Cleaning head
- 5 Brush roller
- 6 Front vacuum bar
- 7 Water distribution bar

4.6.6 Remove the cover from the cleaning head



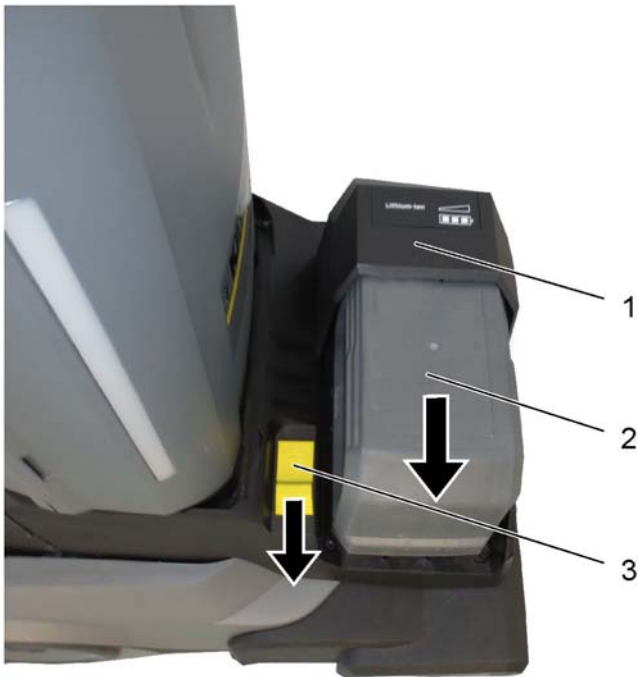
- 1 Cover of cleaning head
- 2 Vacuum bar lift pedal

→ Remove the cover from the cleaning head toward the top.
The cover has several hooks that lock into the cleaning head.



- 1 Vacuum bar lift pedal
- 2 Vacuum bar guide
- 3 Vacuum bar
- 4 Vacuum bar holder
- 5 Suction channel

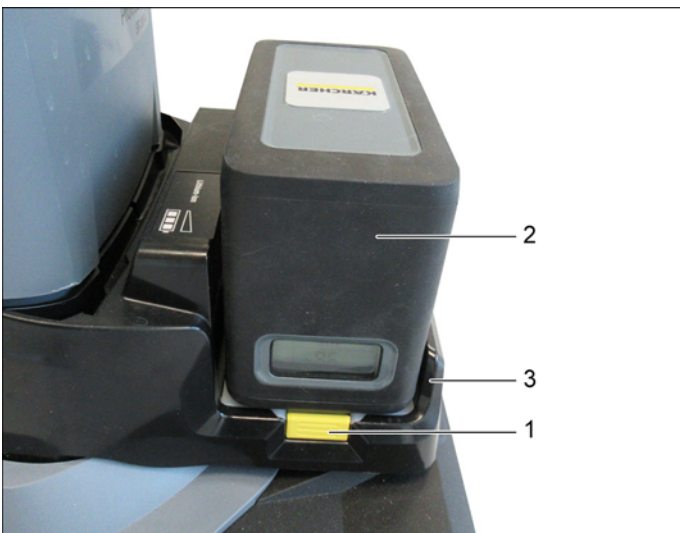
4.6.7 Replace the batteries (BR 30/4 C Bp Pack only)



- 1 Battery compartment
- 2 Battery
- 3 Unlocking

- ➔ Push unlocking mechanism in the direction of the arrow and pull the discharged battery from the battery compartment.
- ➔ Insert the charged batteries into the battery compartment and push in until they lock into place.

4.6.8 Replace battery (only BR 30/4 C Bp Pack Power +)



- 1 Release button
- 2 Battery
- 3 Battery compartment

- ➔ Press the release button.
- ➔ Remove the rechargeable battery.
- ➔ Insert the charged batteries into the battery compartment and push in until they lock into place.

4.6.9 LED display on the brush head (BR 30/4 C Bp Pack only)



- 1 LED status indicator
- 2 Battery storage
- 3 Battery

4.6.10 LED display on the brush head (only BR30 / 4 C Bp Power +)

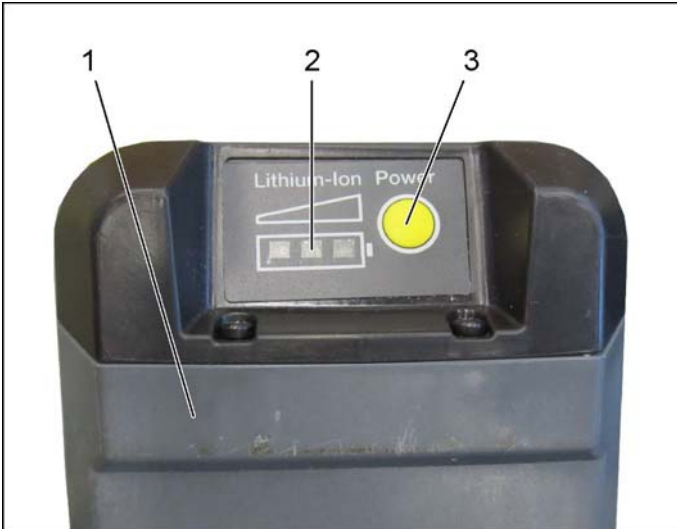


- 1 LED status indicator
- 2 Battery

Remaining run time		
3 LEDs light up:	min.	about 30 - 22.5
2 LEDs light up	min.	about 22.5 - 15
1 LED lights up:	min.	about 15 - 7.5
1 LED flashes:	min.	about 7.5 - 0

4.6.11 Display on the battery

BR 30/4 C Bp Pack



- 1 Battery
- 2 LED status indicator
- 3 PRÜFTASTE/ TESTBUTTON

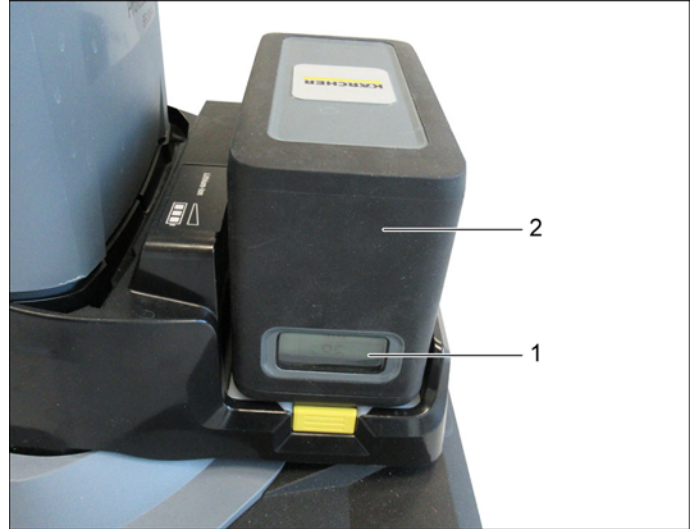
The equipment electronics checks the battery's charging state.

- No LED lights up: Voltage < 29.7 volts, battery is empty.
- 1 LED flashes: Voltage between 29.5 volts and 35.0 volts.

- 1 LED lights up: Voltage between 35.1 volts and 36.2 volts.
- 2 LEDs light up: Voltage between 36.3 volts and 37.2 volts.
- 3 LEDs light up: Voltage above 37.3 volts.

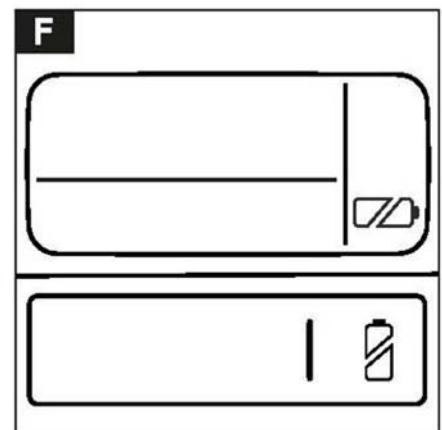
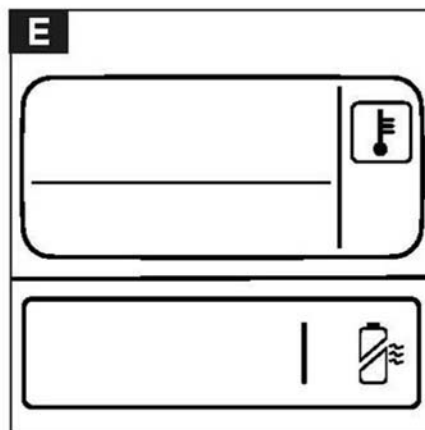
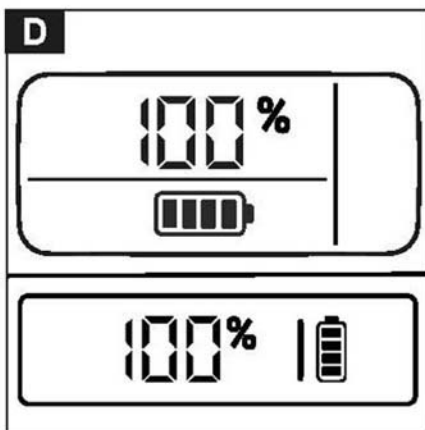
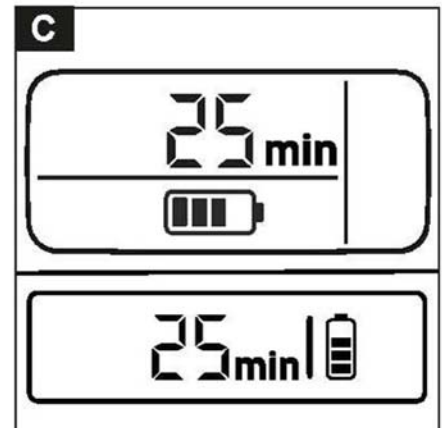
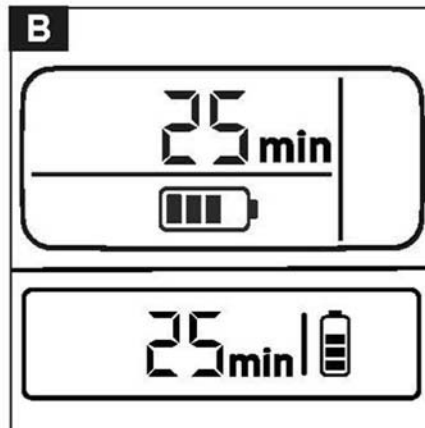
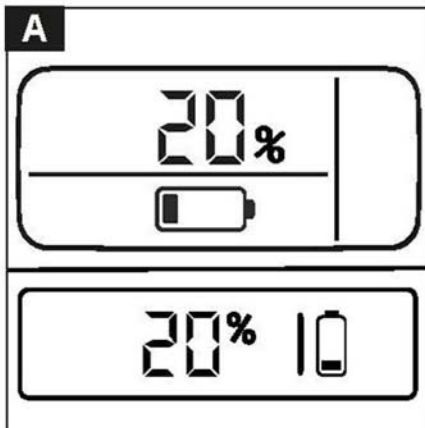
If the battery is empty, the machine switches off after 30 seconds.

BR 30/4 C Bp Pack Power+



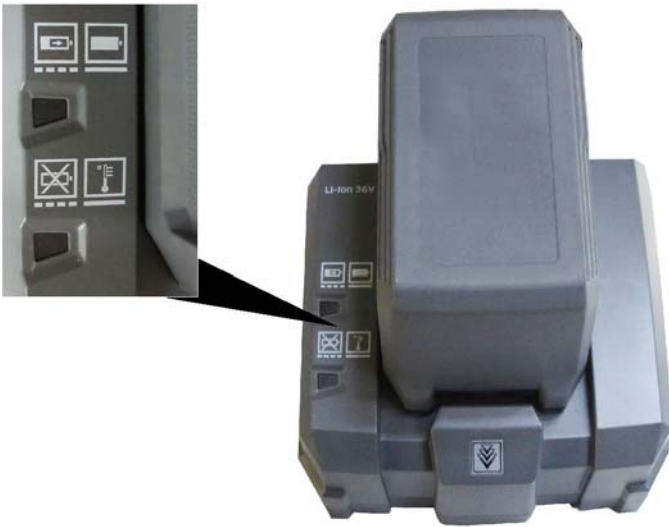
- 1 Display
- 2 Battery

Display in the battery display



Display	Meaning	
Battery pack in storage	Charging state of the battery pack while not in use.	Figure A
Battery pack in use	Remaining run time of the battery pack while in use.	Figure B
Battery pack charging	Remaining charging time of the battery pack during charging.	Figure C
	The battery pack is fully charged.	Figure D
Error display	The battery pack temperature lies outside the permissible temperature range or the battery pack is disabled due to a short circuit.	Figure E
	Battery pack is defective and disabled for safety. Do not use the battery pack and dispose of it properly.	Figure F

4.6.12 Displays on the charger (BR 30/4 C Bp Pack only)



- Red LED glows:
The battery pack is too hot or too cold.
The charging process starts when the battery pack has reached the correct charging temperature.
- Red LED blinks:
Battery pack has not been placed correctly on the battery holder.
Battery pack is defective.
- LED green, battery is charging
 - glows: Battery pack full
 - blinks: Battery pack is being charged

The battery has an overvoltage detection. In the event of a fault, a chemical safety feature is activated

Note: The performance of the battery pack reduces when temperature falls below -10 °C.

Note: Storage for a long time at temperatures above 40 °C can reduce the capacity of a battery pack.

- ➔ Insert the mains plug into the socket.
- The device conducts a self-test. Both the LEDs glow for 1 second. The device then goes into the stand-by mode: both LEDs get switched off.
- ➔ Slide the battery pack on the battery holder of the charger.
- The battery pack will be charged automatically; the green LED blinks.
- If the battery pack is too hot or too cold, the red LED glows. The charging process starts when the battery pack has reached the correct charging temperature (5 °C...45 °C).

- When the battery pack is fully charged, the green LED glows. The charger automatically switches to retention charging.

➔ Remove the battery pack and insert it in the device.

Note: The charged battery pack can remain on the charger till it is to be used. There is no risk of over-charging.

Note: In order to avoid unnecessary energy consumption, however, the charger should be unplugged as soon as the battery pack is fully charged.

4.6.13 Displays on the charger (only BR 30/4 C Bp Power +)

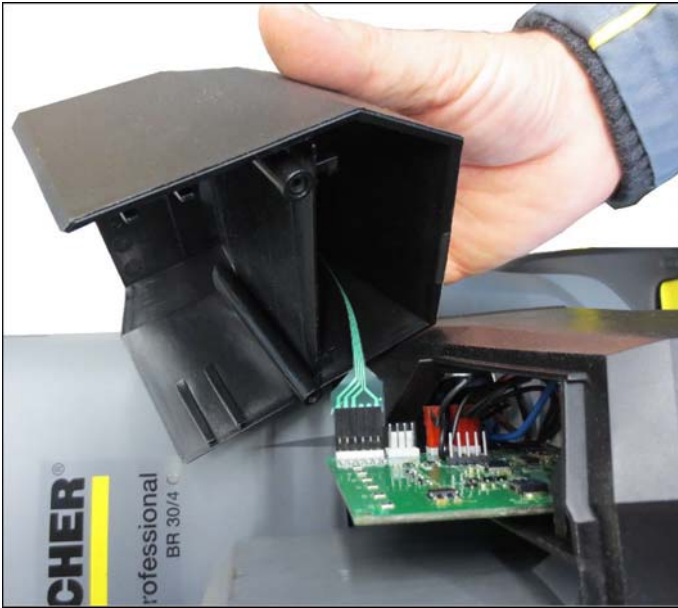


See operating instructions.

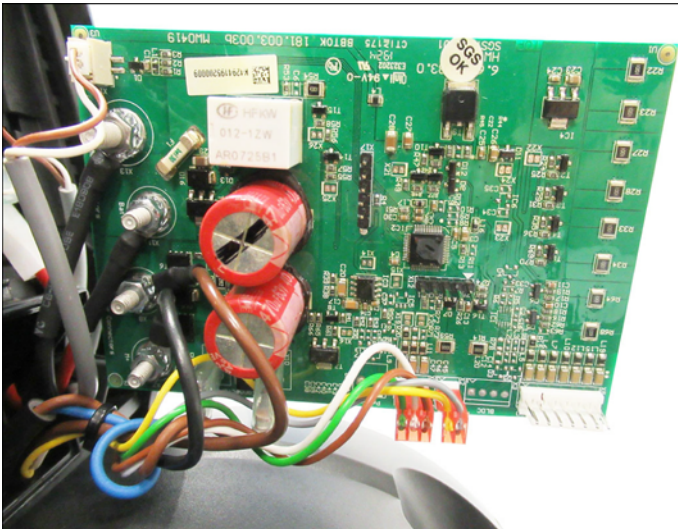
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4.6.14 Control board (BR 30/4 C Bp Pack only)

BR 30/4 C Bp Pack



BR 30/4 C Bp Pack Power+



The printed circuit board allows the safe and reliable operation of the battery-powered BR 30/4 via voltage and current measurement.

- 5.1.15 Replace the control board (BR 30/4 C Bp Pack only)
- 5.1.16 Replace control board (only BR 30/4 C Bp Pack Power +)

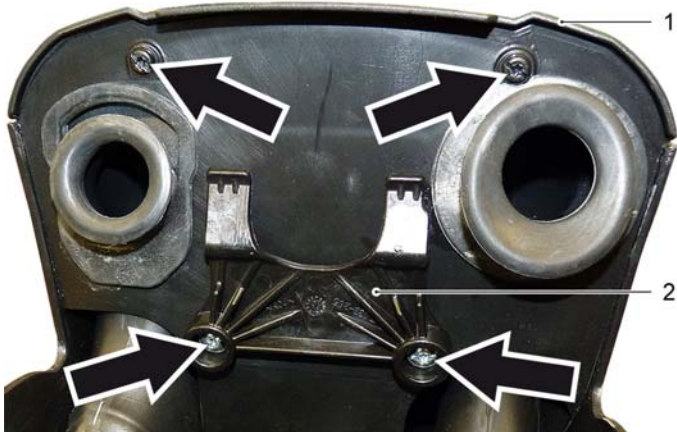
5 Basic settings and service procedures

5.1 Removing the appliance components

5.1.1 Replacing the main switch



1 Main switch for brushing/vacuuming operations



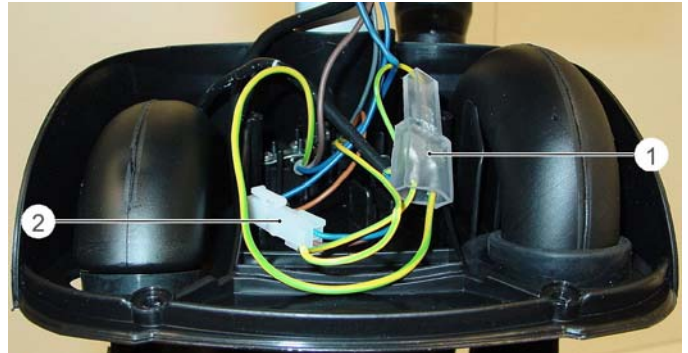
1 Housing top
2 Spring element

- ➔ Remove the waste water tank (see chapter "Removing the tanks").
- ➔ Loosen the fastening screws (arrows).
- ➔ Slide the casing top toward the top.



1 Main switch for brushing/vacuuming operations
2 De-interference capacitor

- ➔ Remove the cable plug connections from the main switch.
- ➔ Push the main switch out of the top of the housing.
- ➔ Install the new main switch in reverse order.



1 Connector, protective conductor cable
2 Connector, pump

Main switch / check switch

- ➔ Connect a resistance gauge between the connection plug 1 and 1a or 2 and 2a.

Target value:

- Main switch turned off = >1 MOhm
- Main switch turned on = <2 Ohm

NOTICE

For the BR 30/4 Bp, the switch must be pressed for >300 msec for the appliance to be switched on.

BR 30/4 C Bp Pack



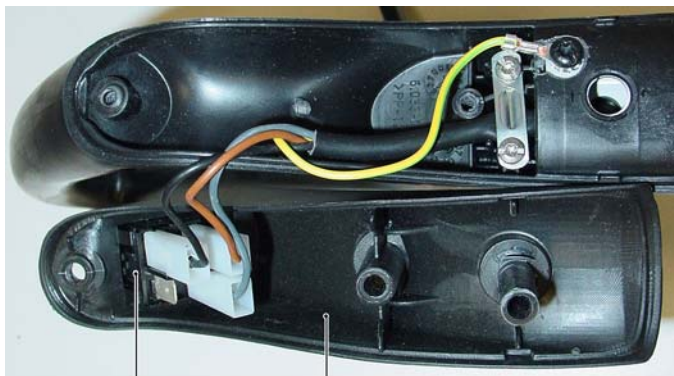
1 Connector, pump

5.1.2 Replacing the water pump switch



- 1 Fastening screws (3x), housing cover
- 2 Covering lid
- 3 Water pump switch

→ Unscrew the screws.



- 1 Covering lid
- 2 Water pump switch

- Remove the housing cover.
- Remove the cable plug connections from the water pump switch.
- Press the water pump switch out of the housing cover from the inside out.
- Install the new water pump switch in reverse order.

Check the water pump switch

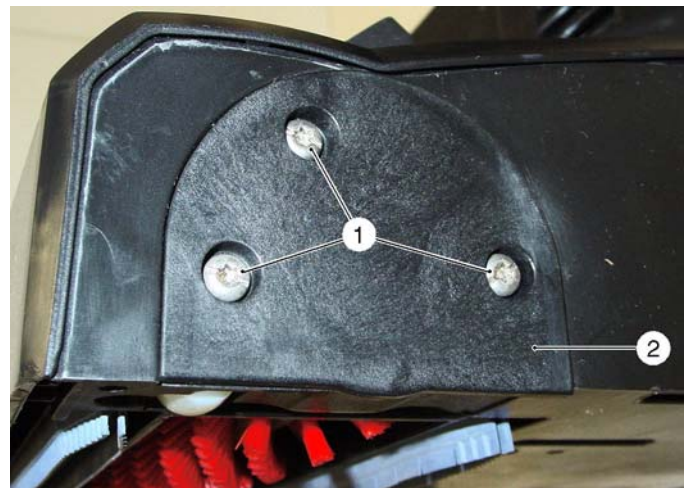
- Connect a resistance gauge between the connection plug 1 and 1a or 2 and 2a.

Target value:

Water pump switch turned off = >1 MOhm

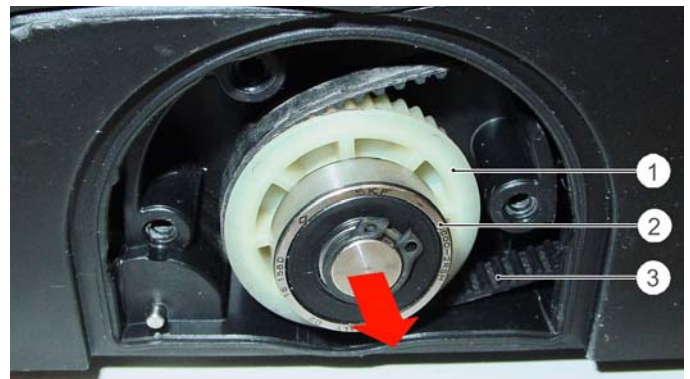
Water pump switch turned on = <2 MOhm

5.1.3 Replacing the brush roller intake



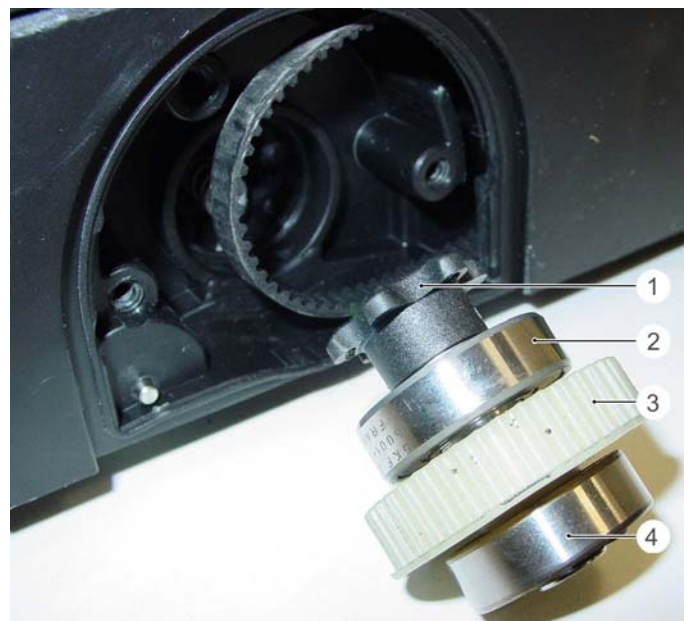
- 1 Fastening screws (3x), cover
- 2 Cover

- Unscrew the screws.
- Remove cover.



- 1 Toothed belt disc
- 2 Outer ball bearing
- 3 Gear belt

- Remove the drive unit from the cleaning head.

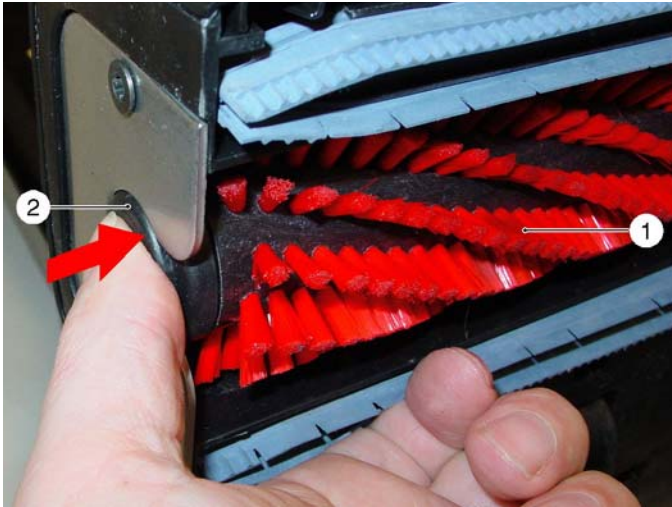


- 1 Towing, brush roller
- 2 Inner ball bearing

- 3 Toothed belt disc
- 4 Outer ball bearing

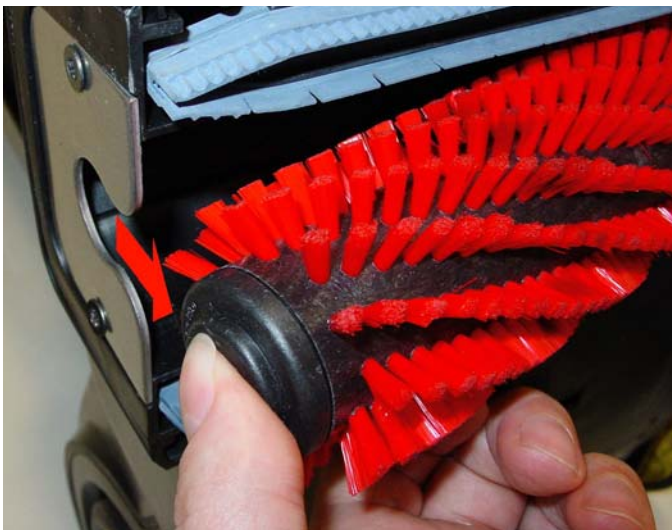
→ Install the new drive unit in reverse order.

5.1.4 Replacing the brush roller



- 1 Brush roller
- 2 Unlocking button for the changeable brush

→ Press the unlocking button of the brush roller.



→ Swivel the brush roller out of the cleaning head and remove.



- 1 Towing, brush roller

- Install the new brush roller in reverse order.
- When inserting the brush roller, make sure that the towing is properly placed in the brush roller.

5.1.5 Replacing the water distribution bar



- 1 Water distribution bar

→ Remove the brush roller (see chapter "Removing the brush roller").



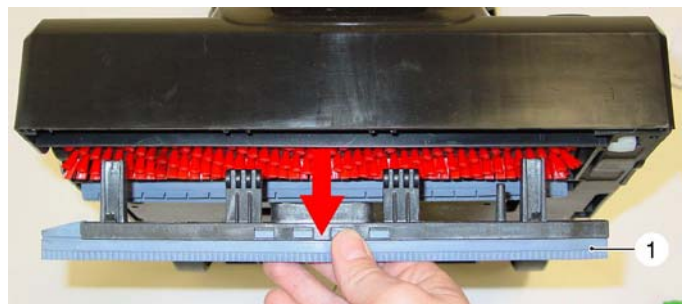
- 1 Water distribution bar
- 2 Rubber tab, water distribution bar
- 3 Water outlet
- 4 Cover, water distribution bar

→ Pull the water distribution bar out of the cleaning head by the rubber tab.

→ Install the new water distribution bar in reverse order press firmly onto the water outlet.

The water distribution bar has a cover on both sides, which can be opened. If necessary, the water distribution bar can be rinsed with water.

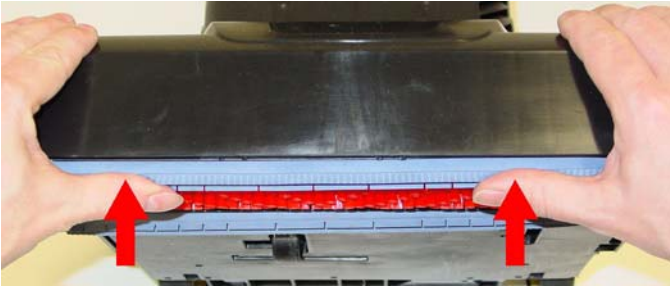
5.1.6 Replace the vacuum bar.



- 1 Vacuum bar

The vacuum bars can be replaced without the use of tools.

- ➔ Move the pedal for the vacuum bar lift to the pedal position "vacuum bar lowered" (see Chapter "Raising/lowering the vacuum bar").
- ➔ Pull the vacuum bar out of the vacuum bar support.



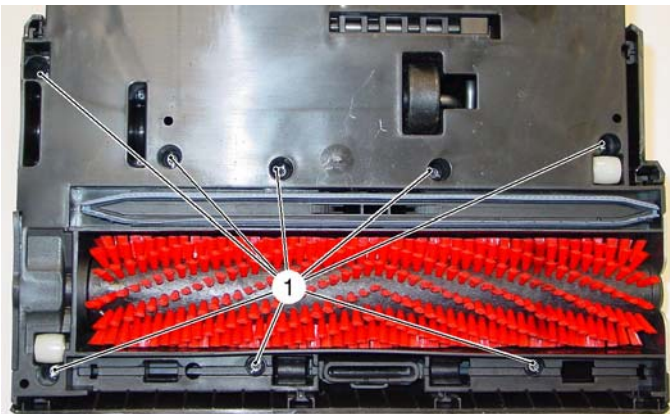
- ➔ Insert the new vacuum bar from the bottom into the vacuum bar support from the bottom and press upward, until the vacuum bar is locked with an audible "click".

NOTICE

The standard suction bar is not suitable for vacuuming oil-soiled floors. In this case, you must use oiltight suction lips.

5.1.7 Removing the cleaning head housing

- ➔ Remove the front vacuum bar (see chapter "Replacing the vacuum bar").



1 Fastening screws (8x), cleaning head housing

- ➔ Unscrew the screws.



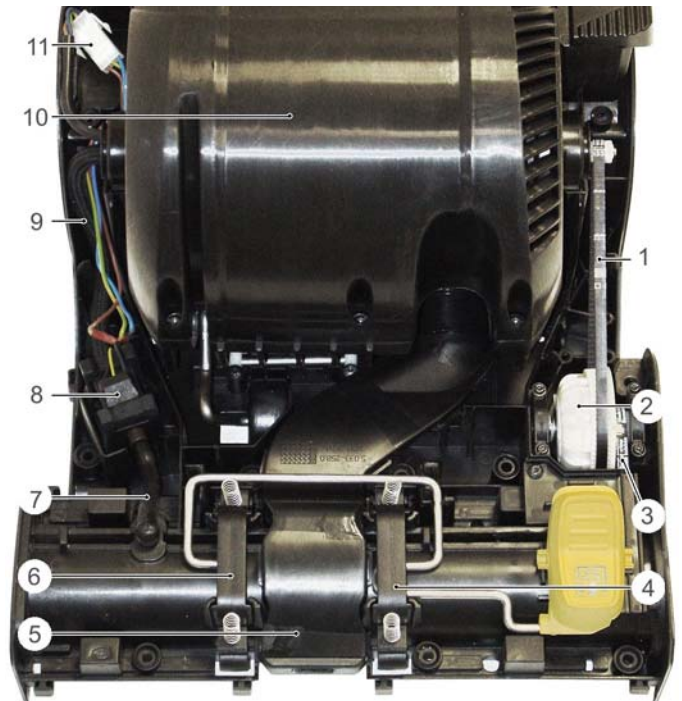
1 Fastening screws (2x), wheel mount

- ➔ Unscrew the cap and fastening screw of the wheel mount and remove the wheel.



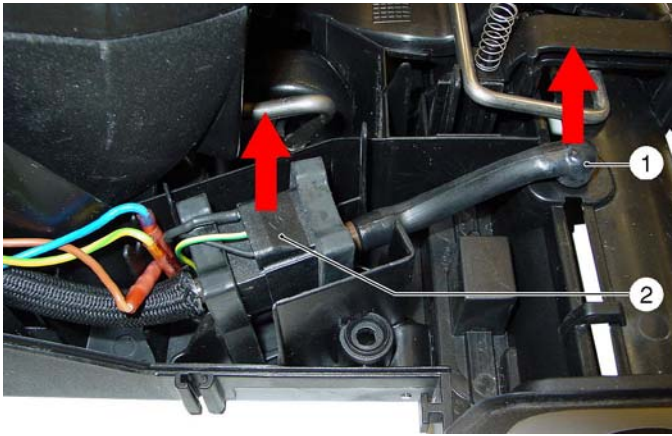
1 Fastening screws (2x) per side, cleaning head housing
 2 Mount, release park position
 3 Intake, fastening screw, wheel mount

- ➔ Loosen the fastening screws on both sides.
- ➔ Remove the release of the parking position (see chapter "Removing the parking position release").
- ➔ Removing the housing from the cleaning head.



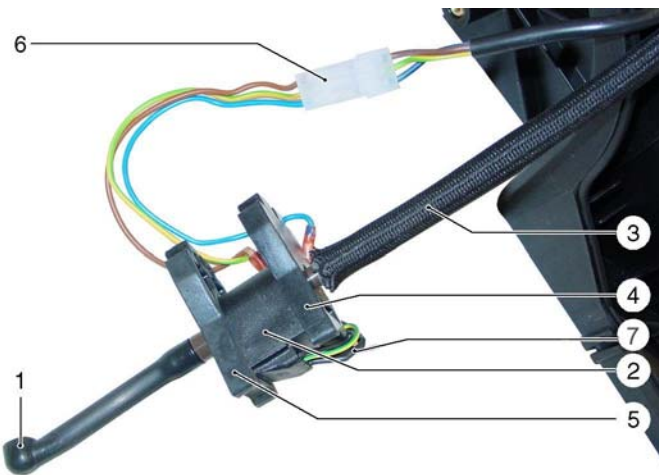
1 Toothed belt, from suction turbine
 2 coupling
 3 Toothed belt to the brush roller drive
 4 Right vacuum bar support
 5 Suction channel
 6 Left vacuum bar support
 7 Shaped hose, water distribution bar connection
 8 Water pump (M2)
 9 Water hose to the water pump
 10 Suction turbine housing
 11 Connector, connecting cable to water pump

5.1.8 Replacing the water pump



- 1 Shaped hose, water distribution bar connection
- 2 Water pump (M2)

- ➔ Remove the cleaning head housing (see chapter "Removing the cleaning head housing").
- ➔ Pull the shaped hose off the connection of the water distribution bar.
- ➔ Pull the water pump out of the water pump holder toward the top.



- 1 Shaped hose, water distribution bar connection
- 2 Water pump (M2)
- 3 Water hose to the water pump
- 4 Pump holder, rubber
- 5 Pump holder, rubber
- 6 Connector, connecting cable to water pump
- 7 Diode, soldered into the cable

The rectifier diode converts AC voltage to pulsating direct voltage. This will result in the water pump feeding the water evenly.

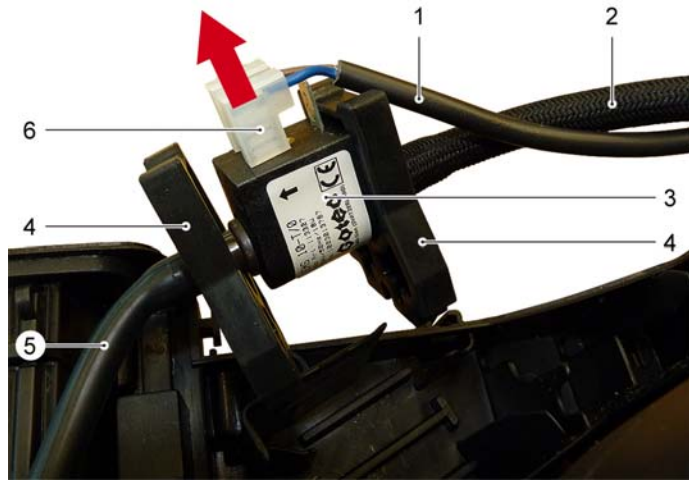
The supply voltage can be read at the Molex plug.

Target value:

Water pump switch turned off = 0 V AC

Water pump switch turned on = current voltage

BR 30/4 C Bp Pack



- 1 Connecting cable
- 2 Water hose to the water pump
- 3 Water pump (M2)
- 4 Pump holder, rubber
- 5 Shaped hose, water distribution bar connection
- 6 Connector, connecting cable to water pump

- ➔ Pull the shaped hose off the water pump.
- ➔ Pull the hose off the water pump.
- ➔ Remove the pump holder from the water pump.
- ➔ Disconnect the connectors
- ➔ Install the new water pump in reverse order.

5.1.9 Voltage measurement on the water pump

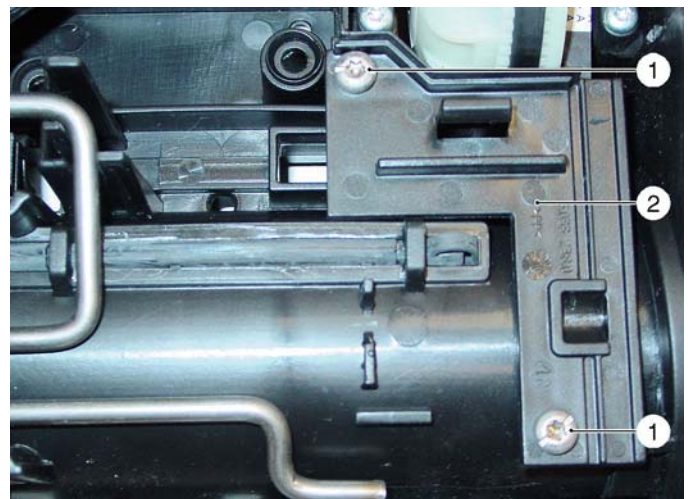
NOTICE

BR 30/4 C only Bp Pack:

The connection voltage of 24 Volts is pulsed; therefore, only about 12 Volts can be measured on the water pump.

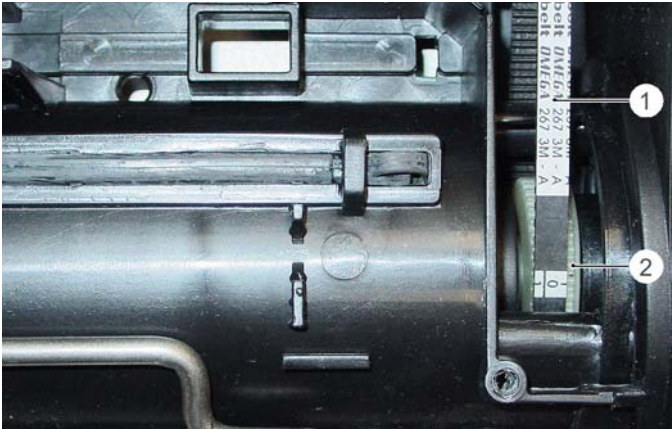
This water pump does not have a diode. The water pump is monitored by current. If the current pickup is too high, it is switched off.

5.1.10 Replacing the toothed belt

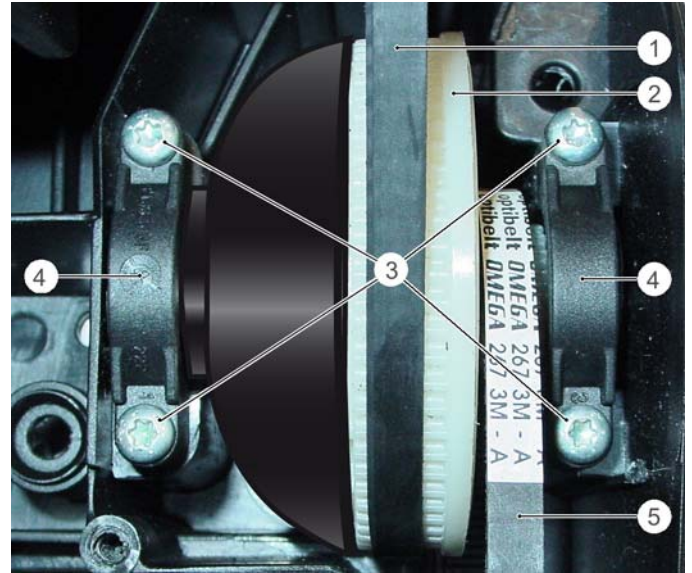


- 1 Fastening screws (2x), cover
- 2 Cover

- ➔ Remove the cleaning head casing (see chapter "Removing the cleaning head casing").
- ➔ Unscrew the screws.
- ➔ Remove cover.



- 1 Toothed belt to the brush roller drive
- 2 Drive unit, brush roller



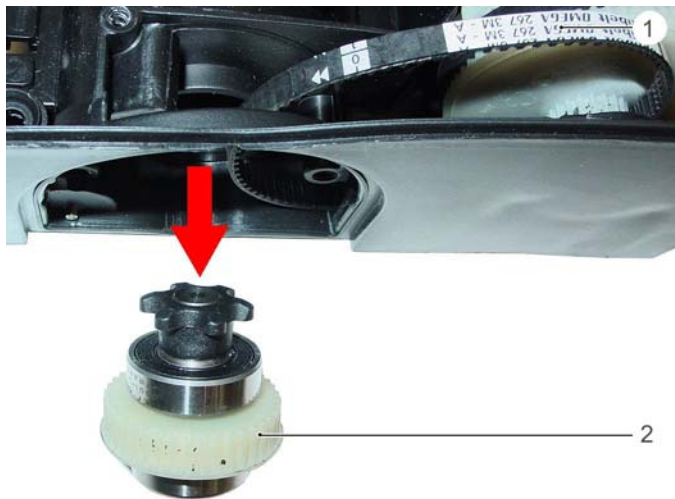
- 1 Toothed belt, from suction turbine
- 2 coupling
- 3 Fastening screws (4x), half bearings
- 4 Half bearings
- 5 Toothed belt to the brush roller drive

- ➔ Unscrew the screws.
- ➔ Remove the half bearings.

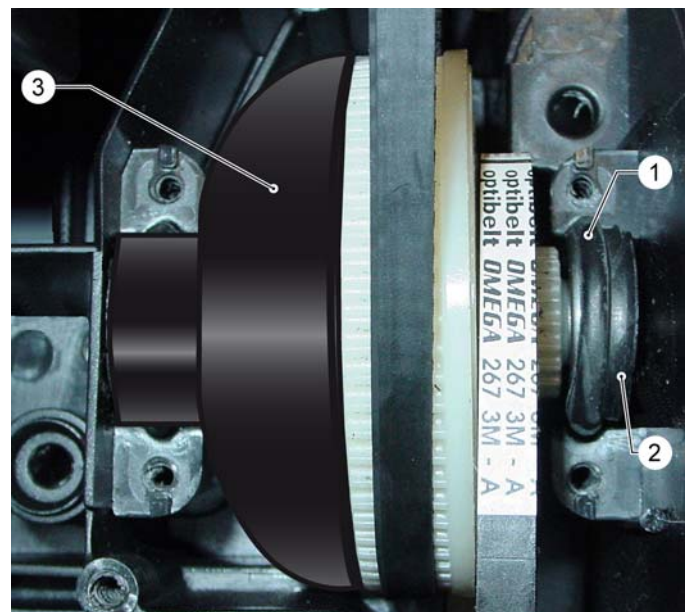


- 1 Fastening screws (3x), cover of drive unit

- ➔ Unscrew the screws.
- ➔ Remove cover.



- 1 Toothed belt to the brush roller drive
- 2 Drive unit, brush roller
- ➔ Remove the drive unit from the cleaning head.



- 1 Rubber ring (2x)
- 2 Bearing (2x)
- 3 Cap

- ➔ Remove the cap.



- 1 Toothed belt, from suction turbine
- 2 coupling

3 Toothed belt to the brush roller drive

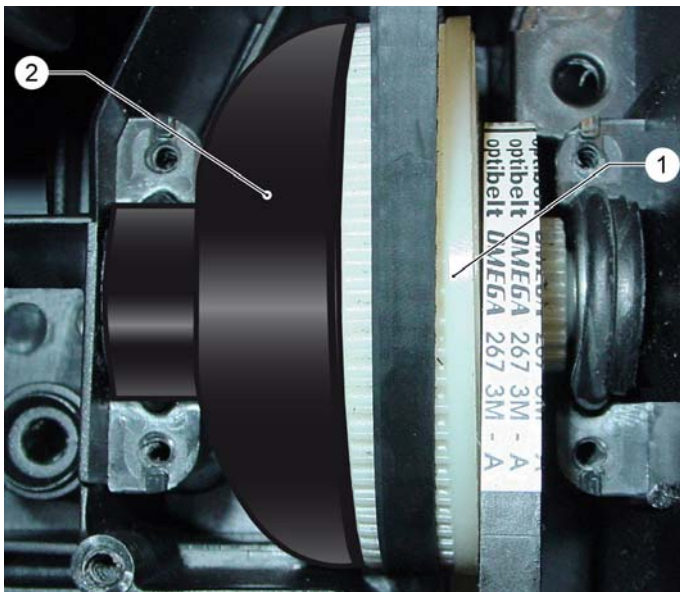
- ➔ Remove the coupling toward the top.
- ➔ Remove both toothed belts.
- ➔ Install the new toothed belts in reverse order.

NOTICE

The coupling is triggered in case of an overload and emits very loud noises. Switch off the appliance briefly and remove the blockage. The coupling will lock in automatically and the appliance can be used once again.

5.1.11 Replace the coupling

- ➔ Remove the cleaning head casing (see chapter "Removing the cleaning head casing").
- ➔ Remove the cover, as described in the chapter "Replacing the toothed belt".
- ➔ Unscrew the fastening screws of the bearing halves, as described in the chapter "Replacing the toothed belt".



- 1 coupling
- 2 Cap

- ➔ Remove the coupling toward the top.
- ➔ Remove both toothed belts.
- ➔ Remove the cap.
- ➔ Install the new coupling in reverse order.

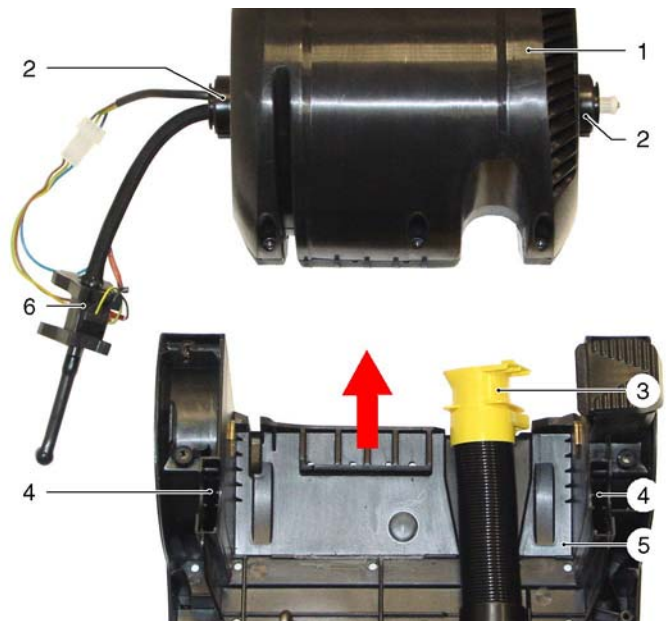
The cap has the function to prevent the toothed belt of the suction turbine from slipping into the coupling.

NOTICE

The coupling is triggered in case of an overload and emits very loud noises. If the appliance is switched off briefly, the coupling will lock in automatically and the appliance can be used once again.

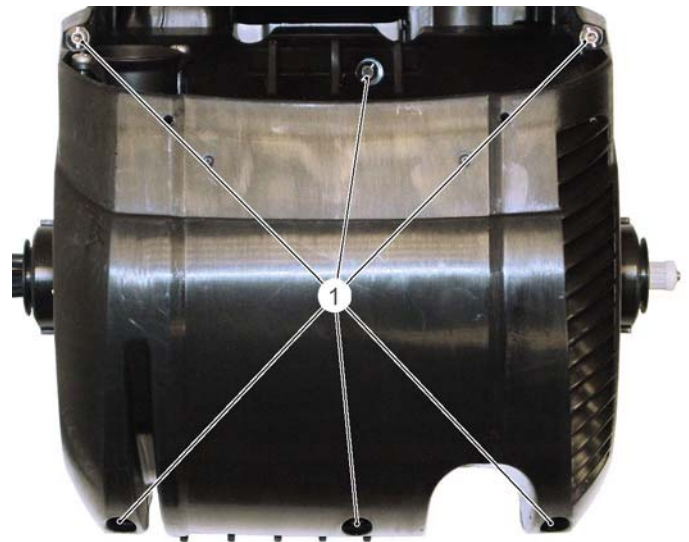
Turn the appliance off before you activate the suction bar lift. Otherwise, the brush drive can be triggered.

5.1.12 Replacing the suction turbine



- 1 Suction turbine housing
- 2 Axle
- 3 Suction tube connection
- 4 Bearing for axle
- 5 Cleaning head - bottom part
- 6 Water pump (M2)

- ➔ Remove the cleaning head casing (see chapter "Removing the cleaning head casing").
- ➔ Disconnect the connection of the suction pipe from the suction pipe and remove them from the housing.
- ➔ Removing the suction turbine housing from the bottom part of the cleaning head.



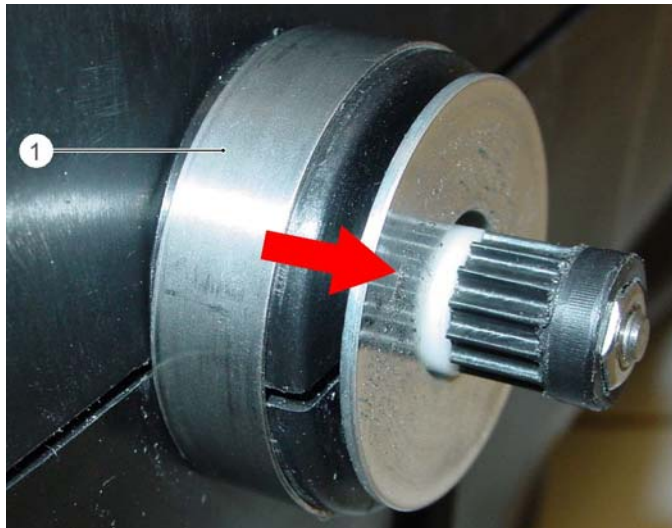
- 1 Fastening screws (6x), half bearings, suction turbine housing

- ➔ Unscrew the screws.



1 Bearing ring (2x), axle

➔ Remove the bearing ring from both sides.



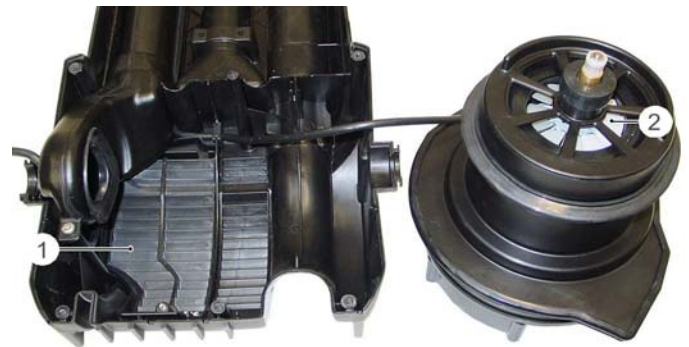
1 Metal clamp ring (2x)

➔ Remove the metal clamp rings from both sides.



1 Bottom half bearing, suction turbine housing
2 Suction turbine (M1)
3 Top half bearing, suction turbine housing

➔ Remove the top half bowl of the suction turbine housing.



1 Bottom half bearing, suction turbine housing
2 Suction turbine (M1)

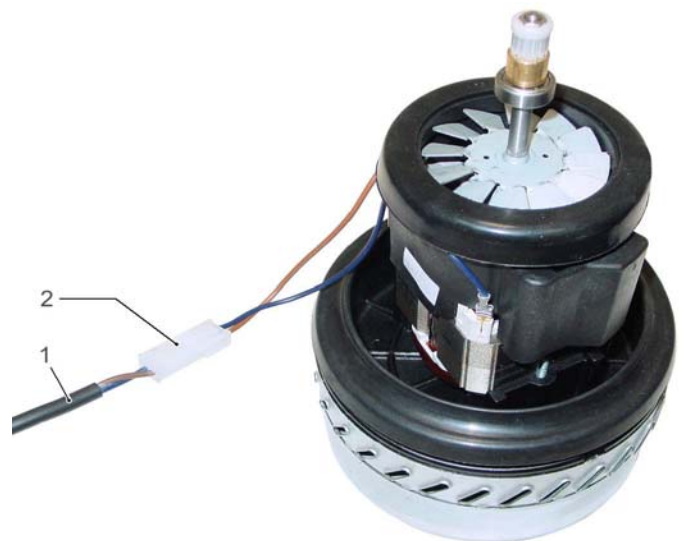
➔ Remove the suction turbine from the bottom half bowl.



1 Suction turbine (M1)
2 Lock (2x), housing cover
3 Covering lid
4 Bottom housing part

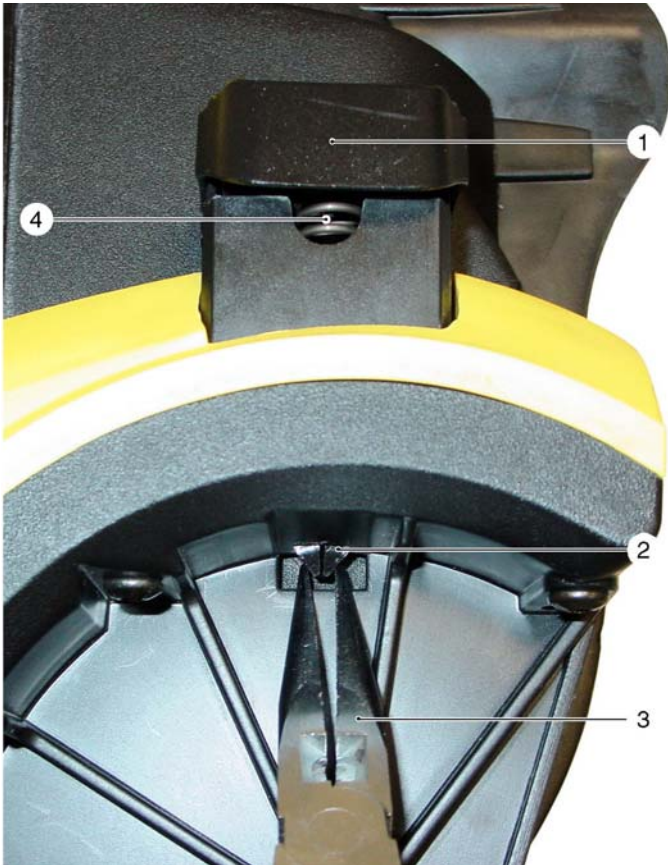
➔ Open locks on both sides of the housing cover and remove the housing cover.

➔ Pull the bottom part of the housing from the suction turbine.



1 Connection cable suction turbine
2 Connector, connecting cable, suction turbine
➔ Unplug the connector of connecting cable to the suction turbine.
➔ Install the new suction turbine in reverse order.

5.1.13 Remove the parking position release



- 1 Release, park position
- 2 Locking tabs
- 3 Pliers
- 4 Pressure spring

➔ Remove the wheel (see chapter "Removing the cleaning head").

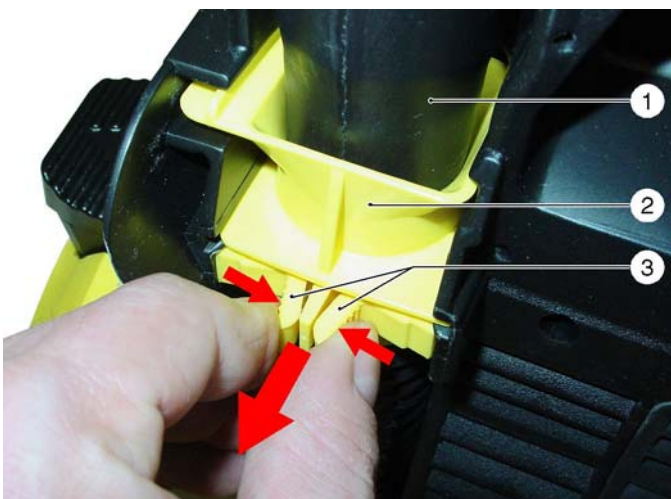
➔ Press the locking tabs together with pliers and, at the same time pull the release out of the housing toward the top.

Caution:

A pressure spring is located under the release.

➔ Install the release in reverse order.

5.1.14 Cleaning the suction channel, the suction pipe and the suction hose



- 1 Suction tube
- 2 Suction tube connection
- 3 Locks on the suction pipe connection

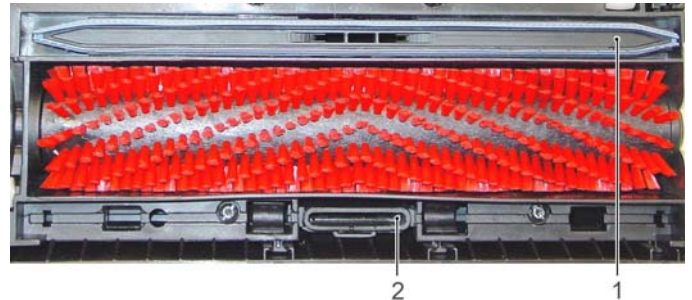
➔ Remove the tanks from the appliance (see chapter "Removing the tanks").

➔ Press together the locks on the suction pipe connection and, at the same time pull the connection of the suction pipe and the suction pipe out of the appliance toward the rear.



- 1 Suction tube
- 2 Suction tube connection

➔ The suction pipe and the suction pipe connections are accessible for cleaning.



- 1 Vacuum bar (2x)
- 2 Suction channel

➔ Remove both vacuum bars from the vacuum bar support (see chapter "Replacing the vacuum bar").

➔ The suction channel is accessible for cleaning.

➔ Flush the suction hose and the suction channel with water or pull or push the obstruction out with a blunt object (such as a cable tie or a similar object).

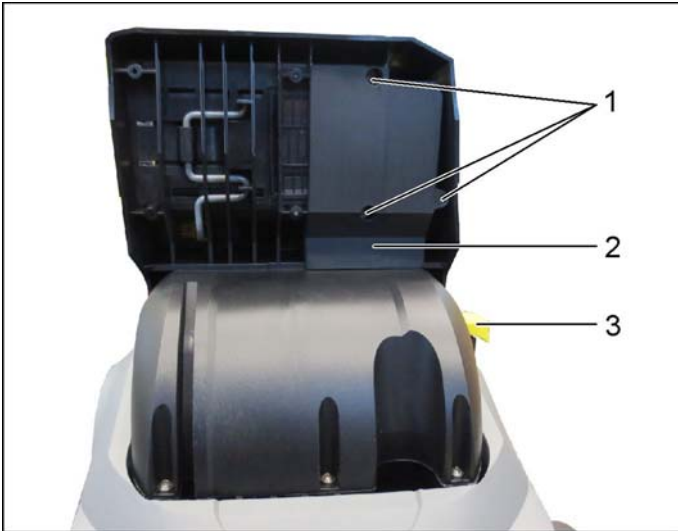
5.1.15 Replace the control board (BR 30/4 C Bp Pack only)

⚠ DANGER

Turn the appliance off and remove the accumulator prior to performing any tasks on the appliance.

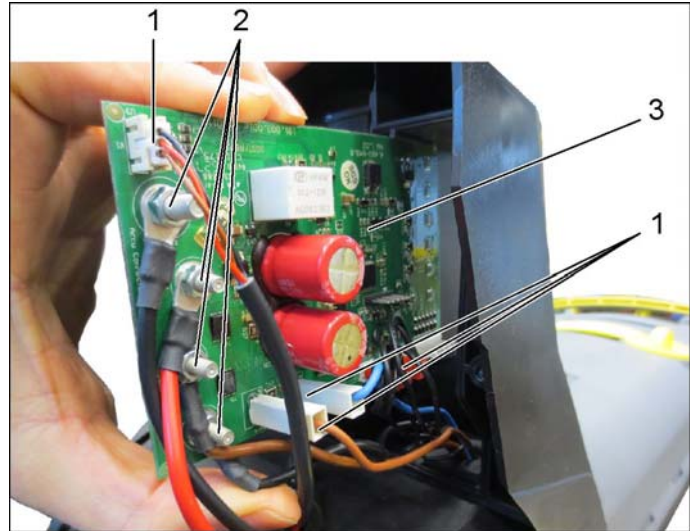
⚠ CAUTION

Risk of damage by electrostatic discharge (ESD)! Take suitable measures for discharging electrostatic charge prior to performing work on the appliance electronics. Transport exchanged board (for analysis) in the ESD protected bag.



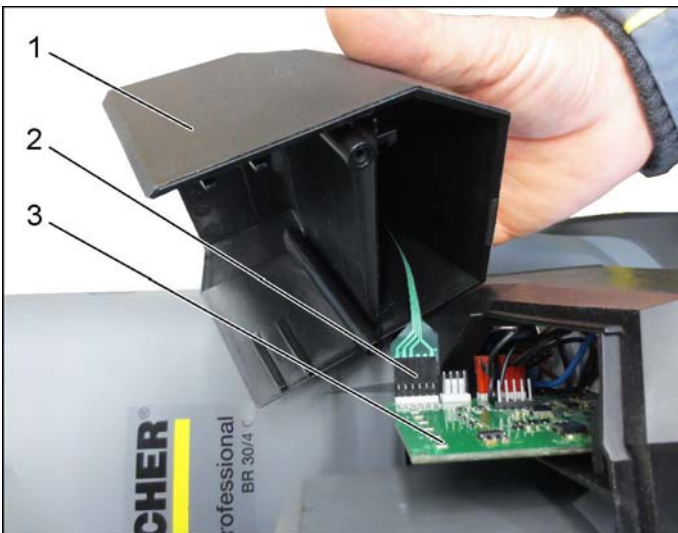
- 1 Screws
- 2 Circuit board cover
- 3 Release, park position

- ➔ Press the park position release and tilt the appliance backwards.
- ➔ Unscrew the screws.
- ➔ Remove the board cover.



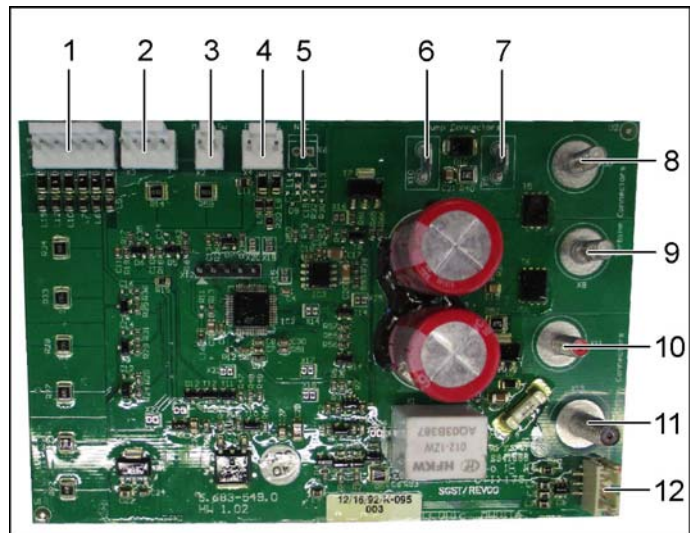
- 1 Electric socket plug connections
- 2 Electric screw connections
- 3 Control board

- ➔ Only touch the control board on the outer edges.
- ➔ Separate the electric connectors.
- ➔ Disconnect electric screw connections.
- ➔ Remove the circuit board.



- 1 Hood
- Electronics system
- 2 Electric connectors
- 3 Control board

- ➔ Remove the hood.
- ➔ Separate the electric connectors.



Item	Name	Plug-in location
1	X5	LED indicator
2	X3	
3	X2	Main switch
4	X4	Pump switch
5	X6	
6	X10	- Voltage divider Pump Water
7	X9	- Voltage divider Pump Water
8	X7	- Voltage divider
9	X8	- Turbine - Voltage divider
10	X11	Power Supply
11	X13	Ground
12	X1	UART/USB Converter

- ➔ Install the control board in the reverse order.

5.1.16 Replace control board (only BR 30/4 C Bp Pack Power +)

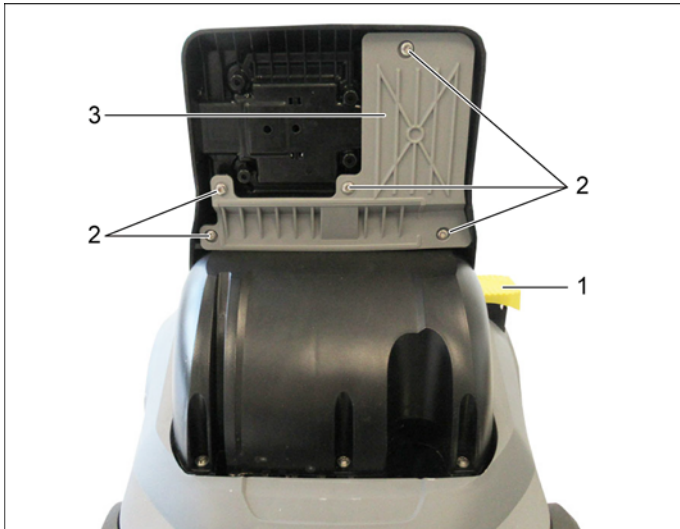
⚠ DANGER

Turn the appliance off and remove the accumulator prior to performing any tasks on the appliance.

⚠ CAUTION

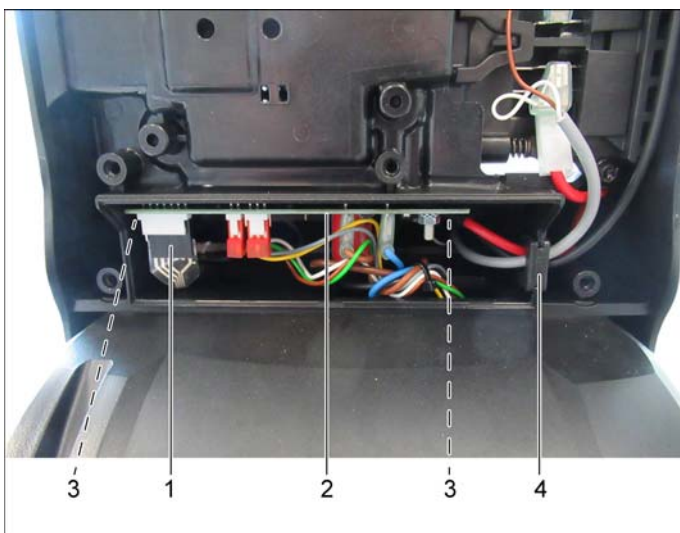
Risk of damage by electrostatic discharge (ESD)! Take suitable measures for discharging electrostatic charge prior to performing work on the appliance electronics.

Transport exchanged board (for analysis) in the ESD protected bag.



- 1 Release, park position
- 2 Screws
- 3 Circuit board cover

- ➔ Press the park position release and tilt the appliance backwards.
- ➔ Unscrew the screws.
- ➔ Remove the board cover.



- 1 Electric connectors
- 2 Printed circuit board (PCB)
- 3 Guides
- 4 Cable inlet

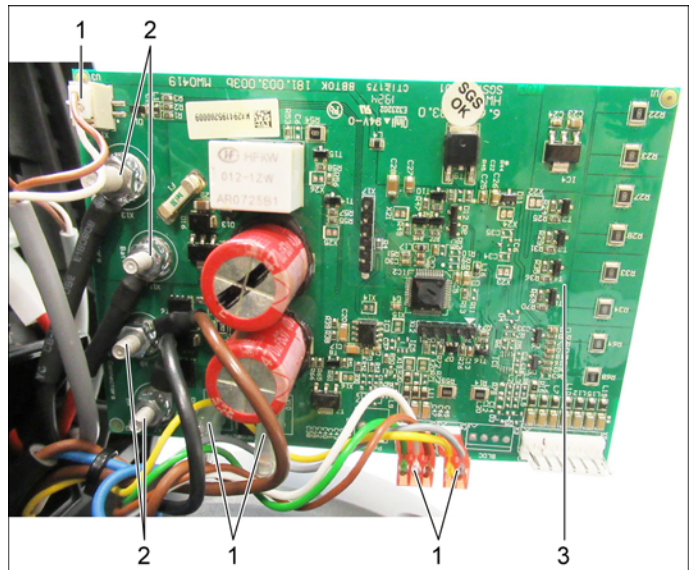
- ➔ Separate the electric connectors.
- ➔ Remove the circuit board.

Note

Only touch the control board on the outer edges.

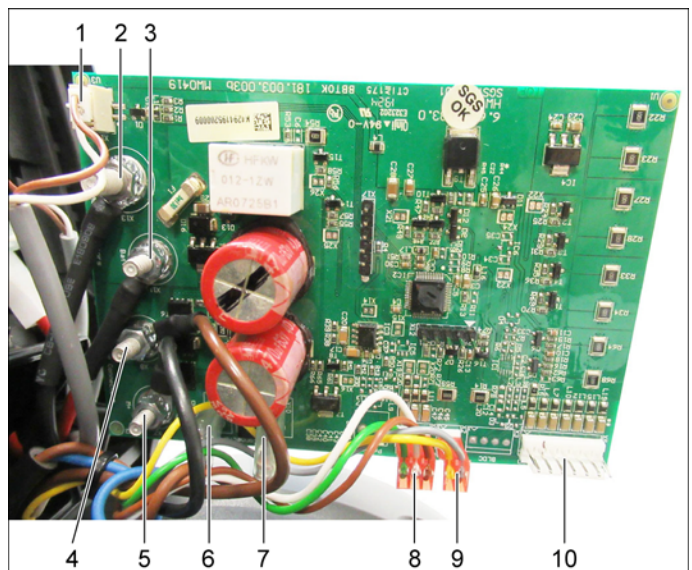
Installation information

The control board must be reinserted into the guides. Ensure that the cable inlet is seated properly.



- 1 Electric socket plug connections
- 2 Electric screw connections
- 3 Printed circuit board (PCB)

- ➔ Only touch the control board on the outer edges.
- ➔ Separate the electric connectors.
- ➔ Disconnect electric screw connections.



Item	Name	Plug-in location
1	X1	UART/USB Converter
2	X13	Ground
3	X11	Power Supply
4	X8	- Voltage divider - Turbine
5	X7	- Voltage divider - Turbine
6	X9	- Voltage divider Pump Water
7	X10	- Voltage divider Pump Water
8	X4	Pump switch
9	X2	Main switch
10	X5	LED indicator

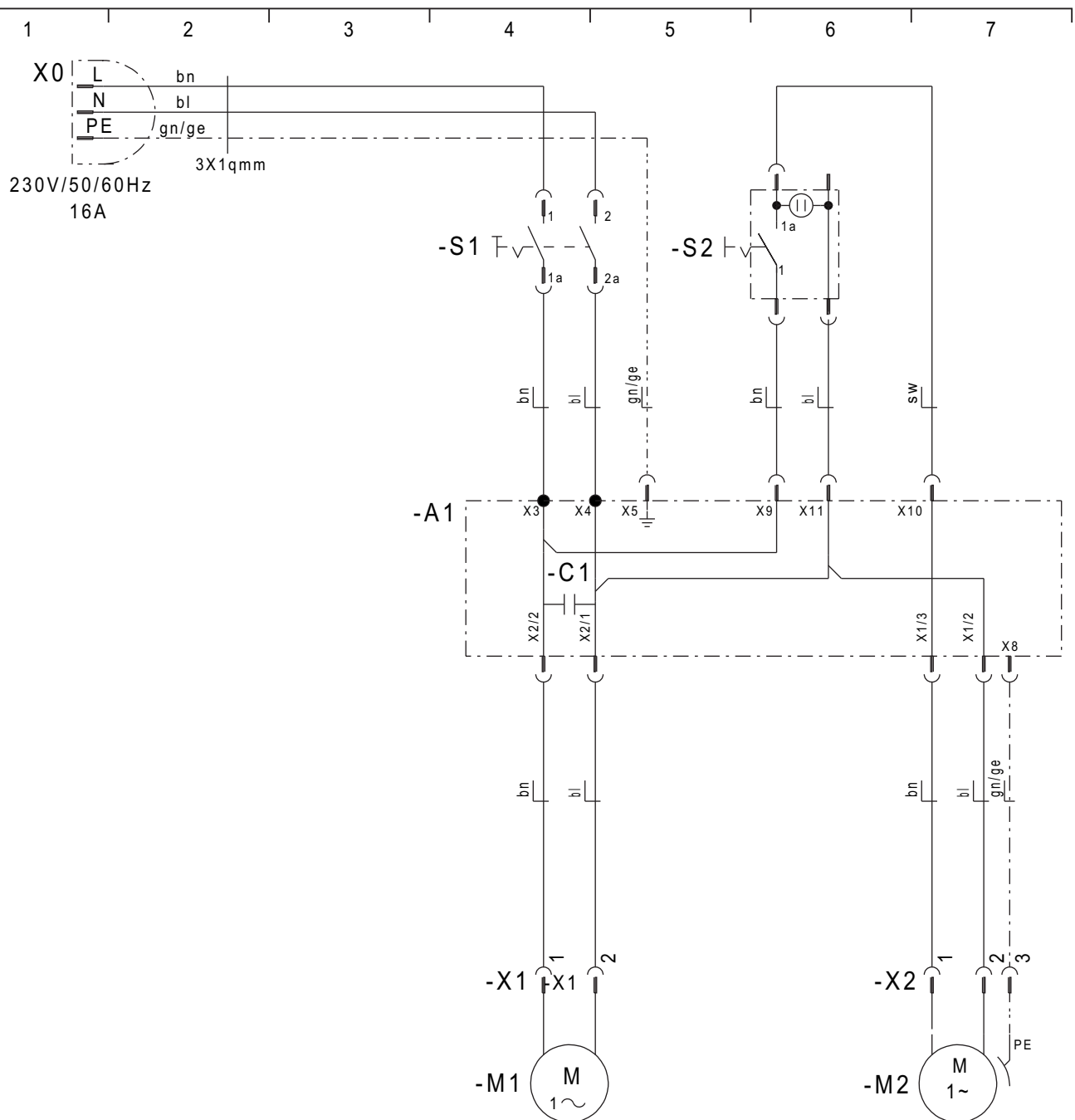
- ➔ Install the control board in the reverse order.

6 Troubleshooting

Fault	Remedy	
Appliance cannot be started	Check power connection/conduit.	
	Check/replace the main switch	S1
	Check/insert the batteries, charge them as necessary (BR 30/4 C Bp Pack only)	
No or insufficient water supply	Fill up fresh water reservoir.	
	Check/clean the water outlet valves on the fresh water reservoir.	
	Check the water hoses to the cleaning head / remove obstruction / bend location.	
	Check/clean/replace the water distribution bar.	
	Check/replace the water pump.	M2
	Check/replace the water pump switch.	S2
Fresh water reservoir drips when refilled	Check/clean the water outlet valves on the fresh water reservoir.	
Suction is too low	Empty the waste water tank.	
	Check the correct positioning of the waste water tank.	
	Clean/check/replace the seals between waste water tank and cover and check for tightness.	
	Check the seals between the lid of the waste water tank and the appliance.	
	Check/lock the correct positioning of the vacuum bar.	
	Check the vacuum bar for wear and tear, replace if necessary.	
	Check the suction pipe connection, whether the suction hose and the suction pipe are properly connected, connect properly if necessary.	
	Check the vacuum bar, suction pipe and suction channel in the cleaning head for obstructions, clear if necessary.	
	Check/replace the suction turbine.	M1
	Check whether the cable behind the tanks has been routed flat and whether the included cover is attached (current model only).	
Insufficient cleaning result	Check brush roller for foreign bodies	
	Check/replace the brush roller.	
	Check/replace the toothed belt.	
Brush roller does not rotate	Check brush roller for foreign bodies	
	Coupling disengaged, check.	
	Check/replace the toothed belt.	
	Check/replace the suction turbine.	M1
	Check brush roller intake.	
The water pump starts up only briefly, overcurrent shutoff of the pump (BR 30/4 Bp)	Check the water pump.	M2

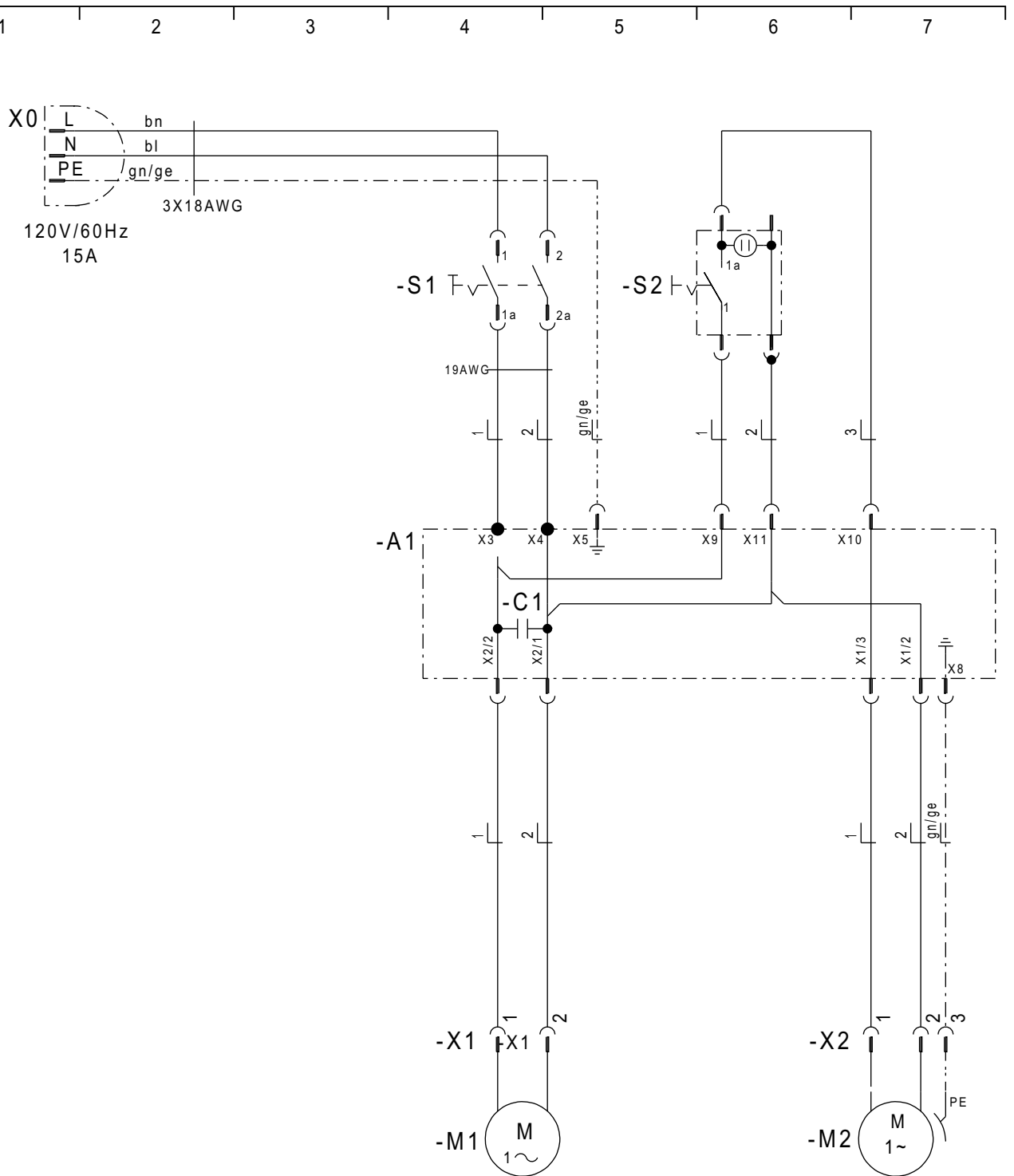
7 Circuit diagram

7.1 Circuit diagram 0.089-099.0 - BR 30/4 C (230V/50-60 Hz), BR 4.300



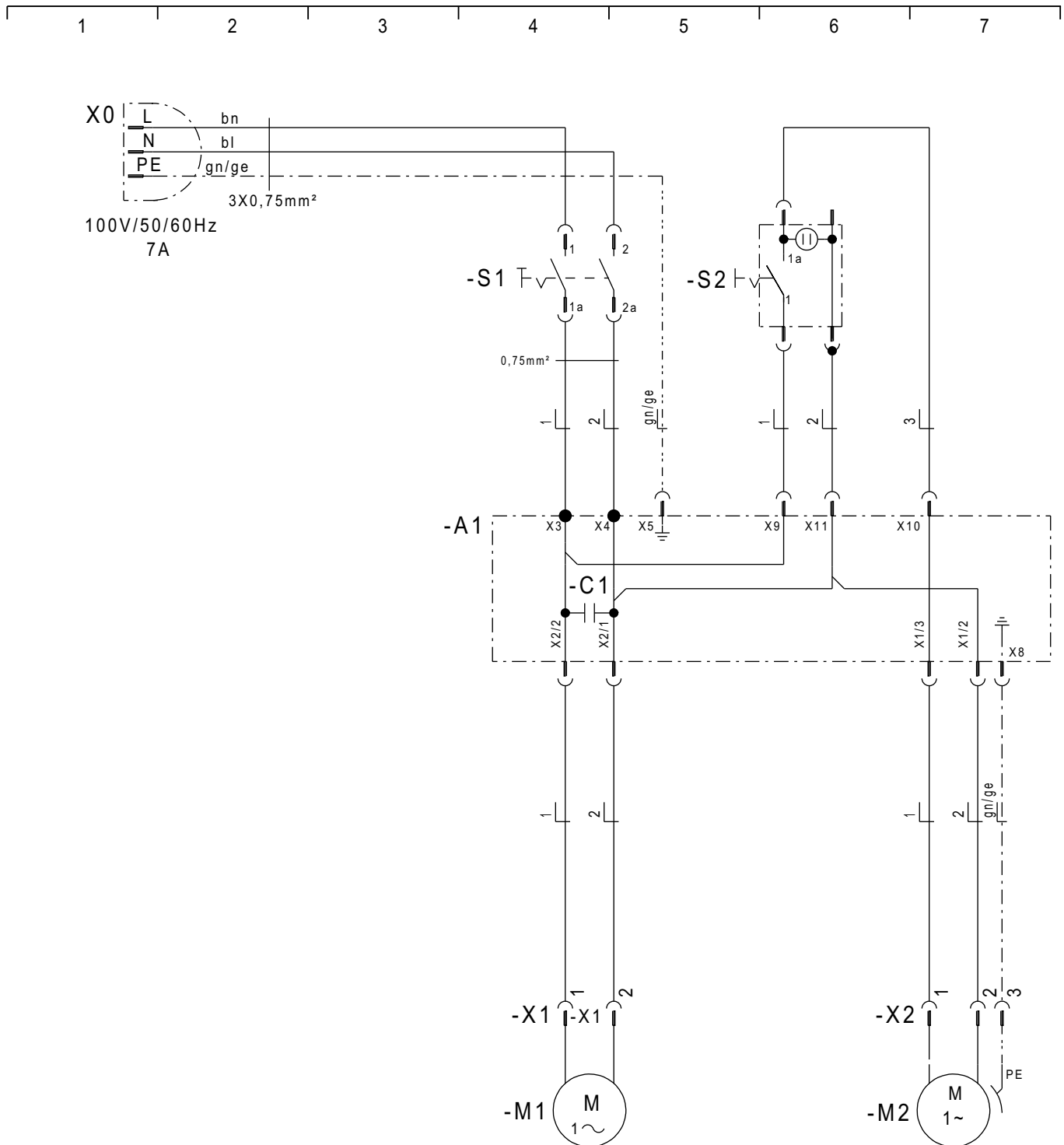
A1	Distribution board
C1	De-interference capacitor, 0,22 μ F
M1	Brush motor
M2	Water pump
S1	Main switch for brushing/vacuuming operations
S2	Water pump switch
X0	Mains plug
X1	Connector 2 pin
X3	Connector 3 pin

7.2 Circuit diagram 0.089-149.0 - BR 30/4 C (120 V/60 Hz)



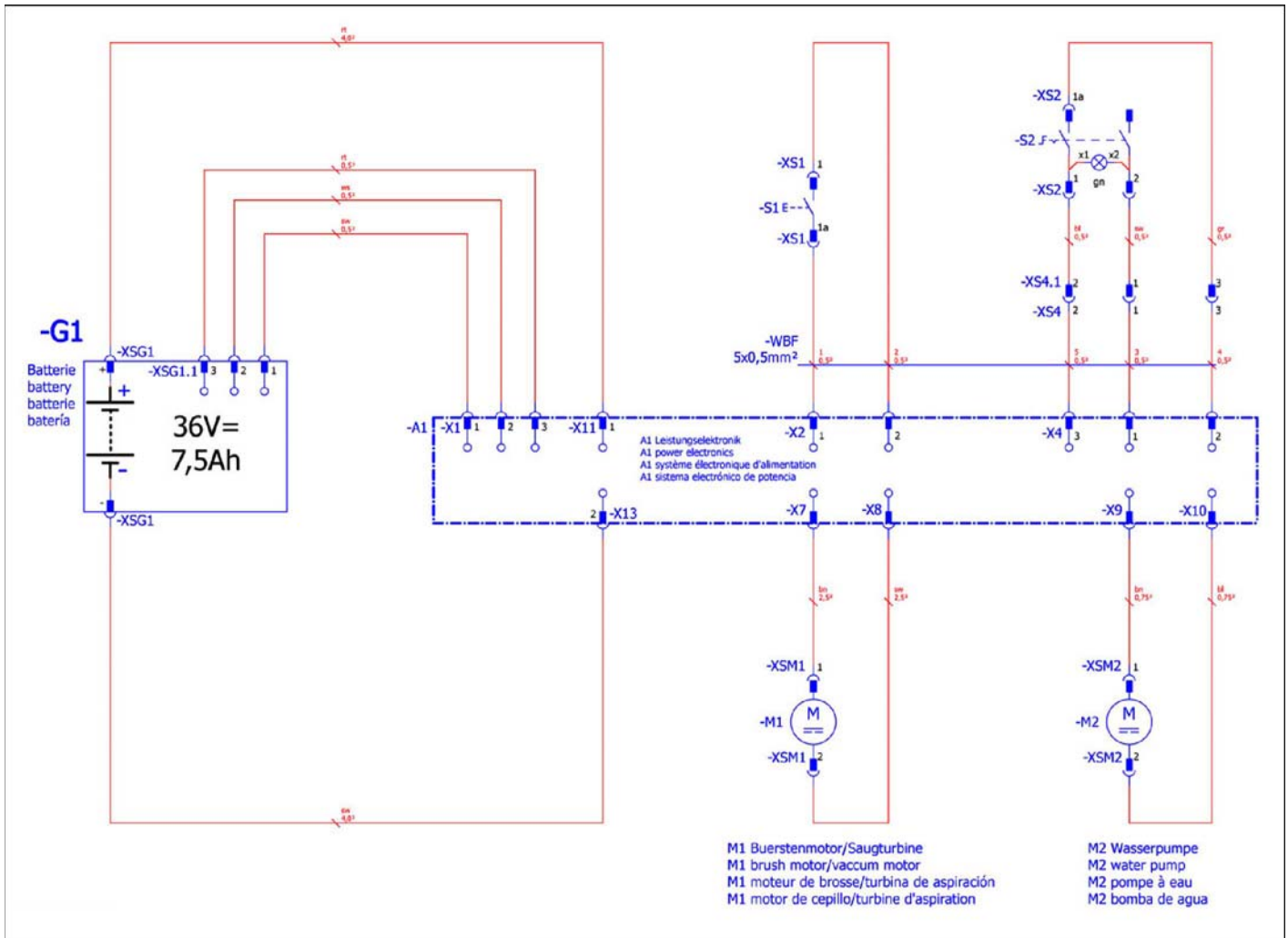
A1	Distribution board
C1	De-interference capacitor, 0,22 μ F
M1	Brush motor
M2	Water pump
S1	Main switch for brushing/vacuuming operations
S2	Water pump switch
X0	Mains plug
X1	Connector 2 pin
X3	Connector 3 pin

7.3 Circuit diagram 0.089-150.0 - BR 30/4 C (100V/50-60 Hz)



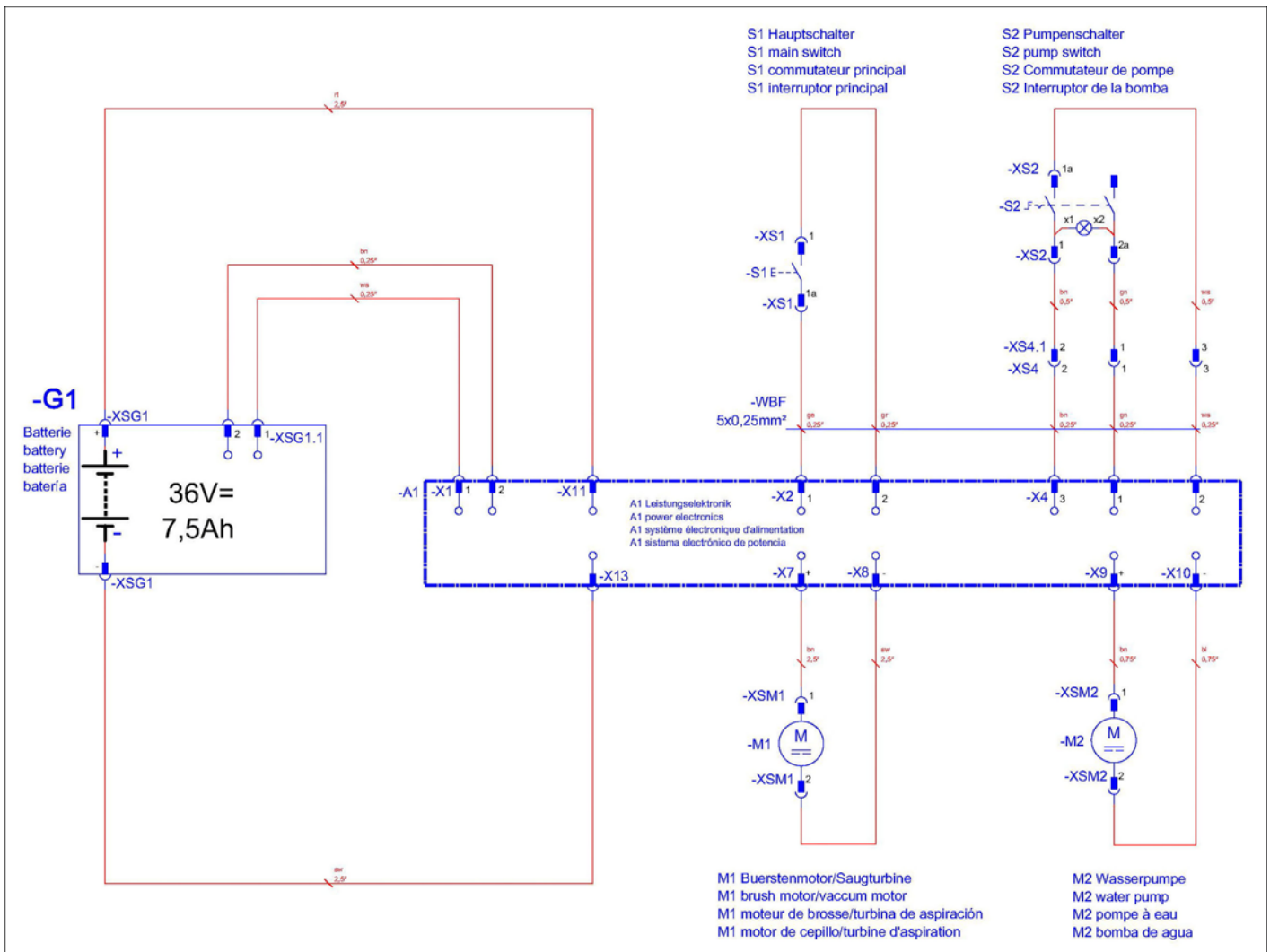
A1	Distribution board
C1	De-interference capacitor, 0,22 µF
M1	Brush motor
M2	Water pump
S1	Main switch for brushing/vacuuming operations
S2	Water pump switch
X0	Mains plug
X1	Connector 2 pin
X3	Connector 3 pin

7.4 Circuit diagram 0.089-811.0 - BR 30/4 C Bp pack



A1	Control board
G1	Battery
M1	Brush motor
M2	Water pump
S1	Main switch for brushing/vacuuming operations
S2	Water pump switch
X1	Connector 3 pin

7.5 Circuit diagram 0.090-099.0 - BR 30/4 C Bp Power+



A1	Control board
G1	Battery
M1	Brush motor
M2	Water pump
S1	Main switch for brushing/vacuuming operations
S2	Water pump switch
X1	Connector 2 pin

8 Technical specifications

8.1 BR 30/4 C - power models

Power		
Nominal voltage	V	220...240
Frequency	Hz	1~ 50/60
Average power consumption	W	820
Protective class		I
Type of protection		IPX4
Current pickup		
230 V / 50 Hz	A	2.9 - 3.5
230 V / 60 Hz	A	2.9 - 3.4
120 V / 60 Hz	A	5.6 - 6.3
100 V / 50/60 Hz	A	6.4 - 7.2
Vacuuming		
Cleaning power, air quantity	l/s	26
Cleaning power, negative pressure	kPa	13
Suction power with suction lips on the floor	kPa	5 - 6
Cleaning brush		
Working width	mm	300
Brush diameter	mm	60
Brush speed	1/min	1450
Dimensions and weights		
Theoretical surface cleaning performance	m ² /h	200
Max. water volume	ml/min	270 - 300
Fresh/waste water tank volume	l	4
Length x width x height	mm	390 x 335 x 1180
Transport weight	kg	12
Total weight	kg	16
Values determined as per EN 60335-2-67		
Hand-arm vibration value	m/s ²	<2.5
Uncertainty K	m/s ²	0.2
Sound pressure level L _{pA}	dB(A)	72
Uncertainty K _{pA}	dB(A)	1
Sound power level L _{WA}	dB(A)	85
Uncertainty K _{WA}	dB(A)	1

8.2 BR 30/4 C Bp Pack

Power		
Nominal voltage	V	36
Average power consumption	W	550
Protective class		III
Type of protection		IPX4
Vacuuming		
Cleaning power, air quantity	l/s	23
Cleaning power, negative pressure	kPa	12
Cleaning brush		
Working width	mm	300
Brush diameter	mm	60
Brush speed	1/min	1270
Dimensions and weights		
Theoretical surface cleaning performance	m ² /h	200
Fresh/waste water tank volume	l	4
Length x width x height	mm	390 x 335 x 1180
Transport weight	kg	17.5
Total weight	kg	21.5
Values determined as per EN 60335-2-72		
Hand-arm vibration value	m/s ²	<2.5
Uncertainty K	m/s ²	0.2
Sound pressure level L _{pA}	dB(A)	72.4
Uncertainty K _{pA}	dB(A)	1
Sound power level L _{WA}	dB(A)	86
Uncertainty K _{WA}	dB(A)	1

8.3 BR 30/4 C Bp Pack Power+

Power		
Nominal voltage	V	36
Average power consumption	W	550
Current consumption at 35 V	A	16.7
Protective class		III
Type of protection		IPX4
Vacuuming		
Cleaning power, air quantity	l/s	23
Cleaning power, negative pressure	kPa	12
Cleaning brush		
Working width	mm	300
Brush diameter	mm	60
Brush speed	1/min	1270
Dimensions and weights		
Theoretical surface cleaning performance	m ² /h	200
Fresh/waste water tank volume	l	4
Length x width x height	mm	390 x 335 x 1180
Transport weight	kg	17.5
Total weight	kg	21.5
Values determined as per EN 60335-2-72		
Hand-arm vibration value	m/s ²	<2.5
Uncertainty K	m/s ²	0.2
Sound pressure level L _{pA}	dB(A)	72.4
Uncertainty K _{pA}	dB(A)	1
Sound power level L _{WA}	dB(A)	86
Uncertainty K _{WA}	dB(A)	1

8.4 Special tools

There are no special tools necessary.