

New Unit Information



RC 3000

1.269- . . .

**Robot**

- 2 drive motors, independent of each other.
- 1 suction motor.
- 1 brush roller.
- 2 impact sensors.
- 4 optical sensors.
- Light barrier for volume control in dirt container.
- 4 infrared receivers for communication with the charging station.
- 2 rechargeable batteries.

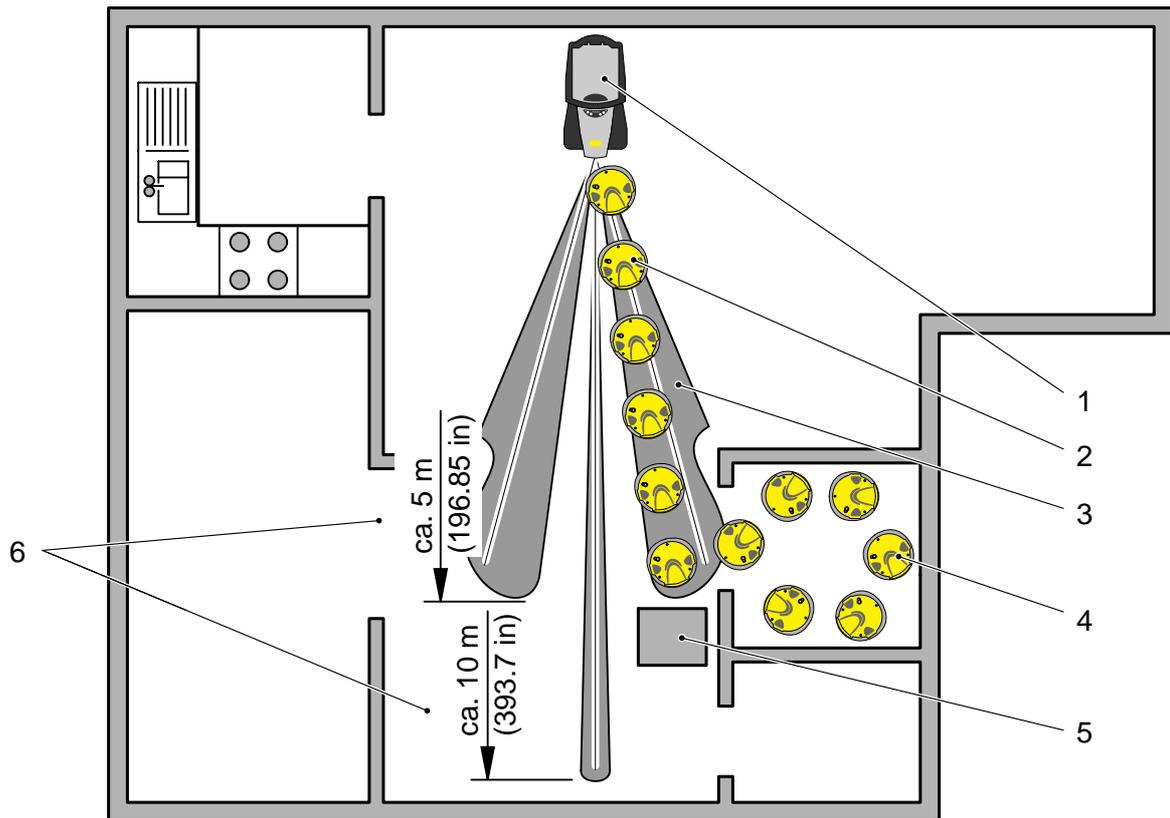
Note:

The brush roller rotates in the direction of travel and operates according to the dustpan principle.

Charging station

- Handle for carrying the charging station.
- Charging contacts for charging the batteries in the robot.
- Infrared transmitter for communication with the robot.
- Suction motor for emptying the dirt container in the robot.
- Dirt container with filter bag.

Function



- 1 Charging station
- 2 Robot (on its way to charging station)
- 3 Infrared beams
- 4 Robot (during cleaning operation)
- 5 Obstacle
- 6 Range of infrared beams

Drive characteristics

The robot moves according to the random principle. When the robot encounters an obstacle, it changes direction using a random angle and then continues to move forward until it meets with the next obstacle.

The flat design of the robot allows it to clean even underneath pieces of furniture such as beds, sofa and cupboards. The robot operates using optical sensors enabling it to detect stairs and steps and prevent falls.

Cleaning programs

The robot incorporates four cleaning programs allowing it to adjust automatically to different degrees of dirt on the floor. The cleaning programs are controlled using sensors in the dirt container - depending on how much dirt has accumulated.

Operation

The robot cleans continuously for 20 minutes ignoring the charging station. After 20 minutes it starts to search for the charging station and, as soon as its sensors detect the station's infrared beams, moves towards it. During the search drive, the robot continues cleaning for up to 60 minutes.

If, after a period of 60 minutes, the robot has not found the charging station, it will switch off its cleaning units to concentrate on the search for the charging station for a further period of 60 minutes.

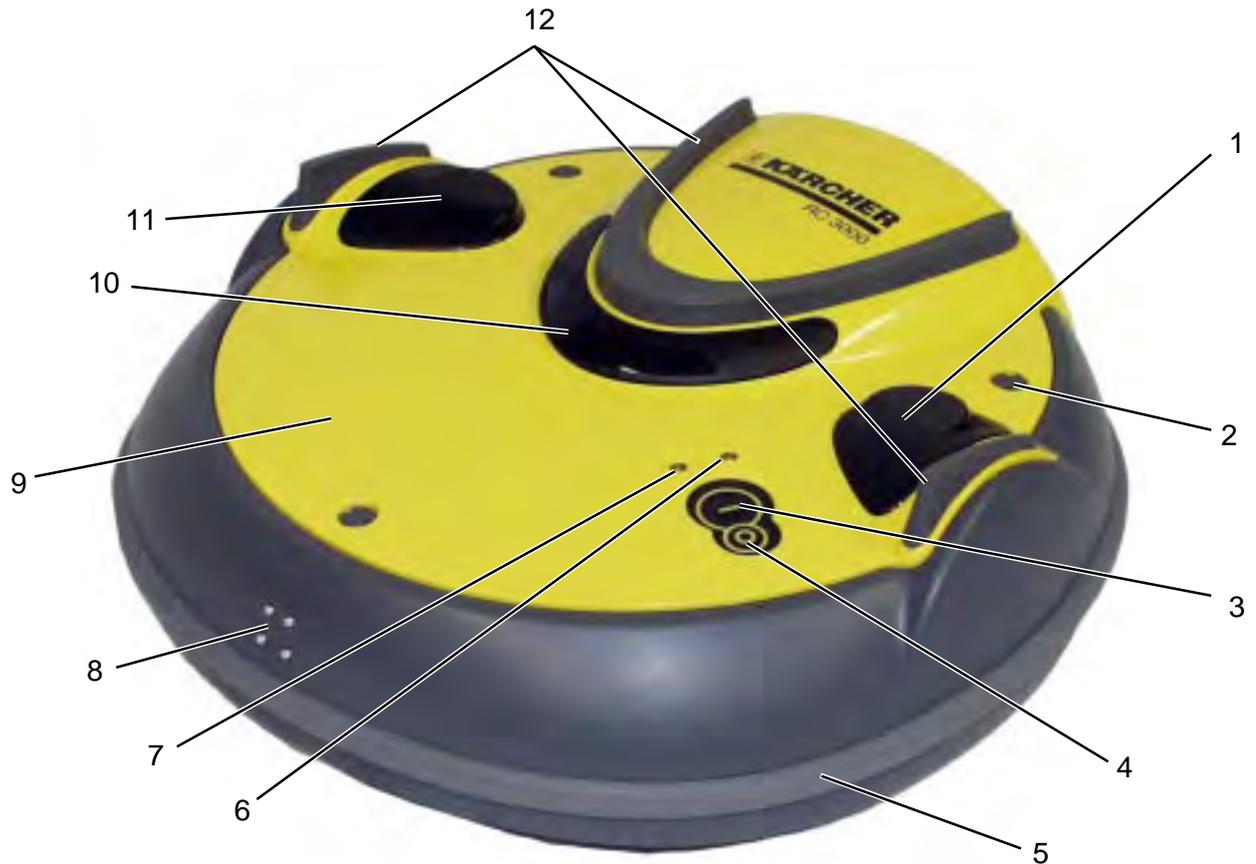
Charging station

In the charging station, the robot's rechargeable batteries are recharged and the dirt from the dirt container (125 ml / 0.03 us gal) is sucked out via the suction aperture. The dirt is also sucked out in the brush area so that the dirt is made smaller and the cleaning process accelerated.

Installation of the charging station

Where several rooms are to be cleaned, the position of the charging station must be selected so that the robot keeps detecting the infrared beams with high probability.

Robot - view from the front



- 1 Infrared receiver, left (receiving direction from rear)
- 2 Locking pin (3x) for unit housing (9)
- 3 Unit ON push-button
- 4 Unit OFF push-button
- 5 Bumper strip
- 6 Indicator lamp, green, operation
- 7 Indicator lamp, red, fault
- 8 Charging contacts
- 9 Unit housing
- 10 Infrared receiver, centre (receiving direction from front)
- 11 Infrared receiver, right (receiving direction from rear)
- 12 Impact edges

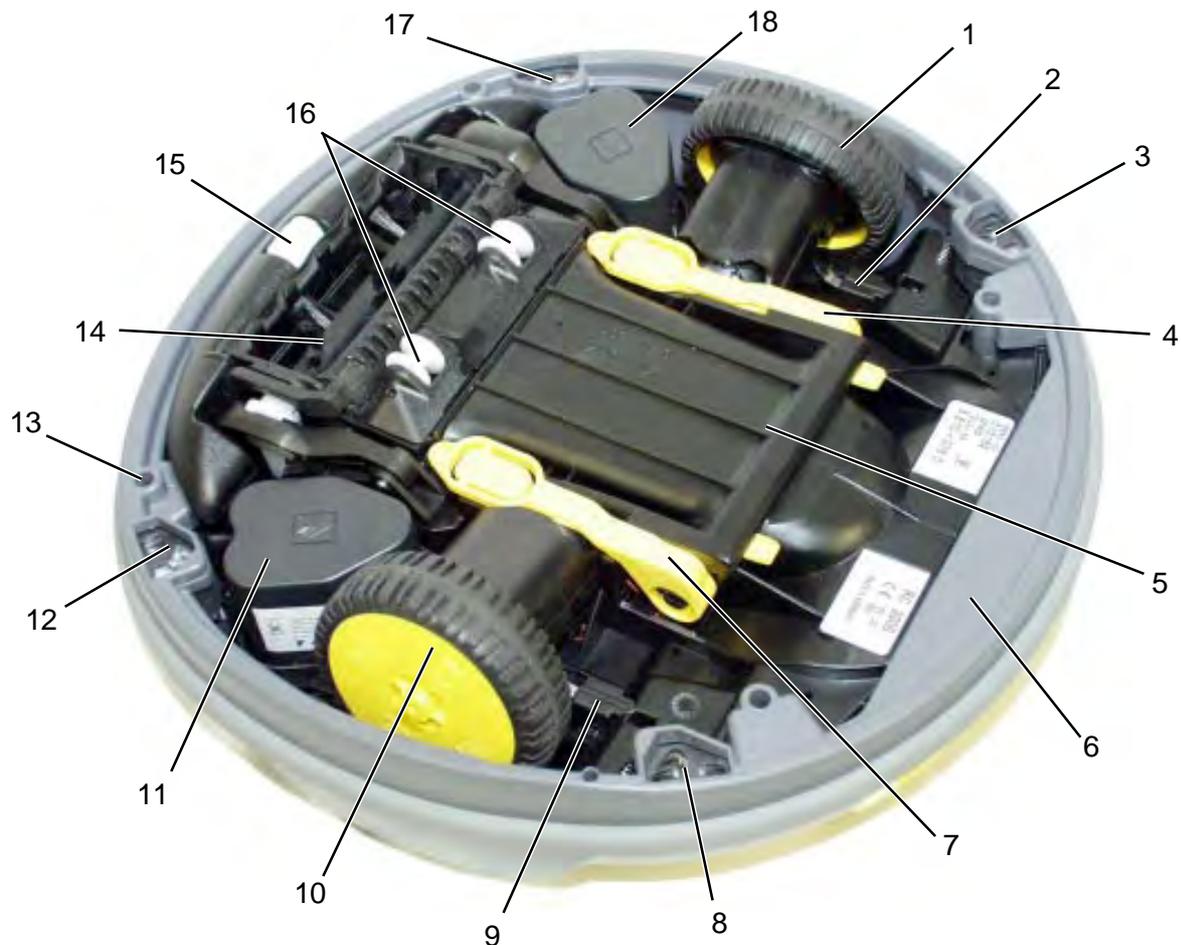
Note:

The pattern of flashing of the indicator lamps (6, 7) indicates potential causes of faults.
(Refer to "Troubleshooting", page 32)

Robot - view from the rear

- 1 Unit ON/OFF push-buttons
- 2 Locking pin (3x) for unit housing (3)
- 3 Unit housing
- 4 Infrared receiver, centre
(receiving direction from front)
- 5 Infrared receiver, right
(receiving direction from rear)
- 6 Air outlet, suction motor
- 7 Infrared receiver, left
(receiving direction from rear)

Robot - view from below



- | | |
|---|-------------------------------|
| 1 Drive wheel, left | 14 Brush roller |
| 2 Microswitch, left | 15 Roller wheel |
| 3 Optical sensor, left rear | 16 Roller wheel (2x) |
| 4 Locking device (left), dirt container | 17 Optical sensor, left front |
| 5 Dirt container cover | 18 Rechargeable battery, left |
| 6 Unit housing, lower section | |
| 7 Locking device (right), dirt container | |
| 8 Optical sensor, right rear | |
| 9 Microswitch, right | |
| 10 Drive wheel, right | |
| 11 Rechargeable battery, right | |
| 12 Optical sensor, right front | |
| 13 Fastening screws (4x, Torx 8) for unit housing - upper/lower section | |

Robot



- 1 Key (special tool)
- 2 Locking pin (3x)
- 3 Unit housing

Note:

Before commencing work on the open robot or the printed circuit board always use an earthing cable, otherwise the sensitive components of the printed circuit board may become damaged as a result of static charges.

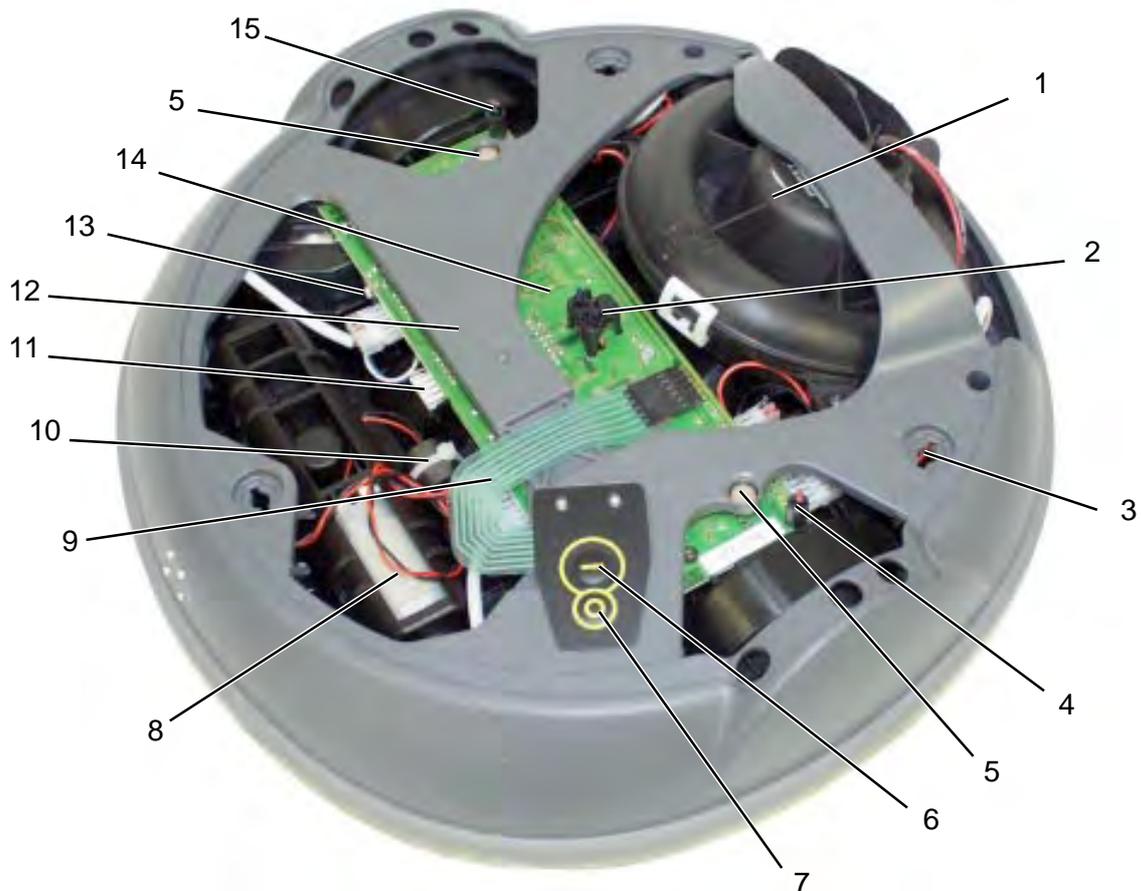
Remove unit housing

- Unlock the locking pins (2) using the key (1).
- Remove the unit housing (3).

Note

The following pages contain step-by-step instructions for the disassembly of the robot.

Robot



Unit housing removed

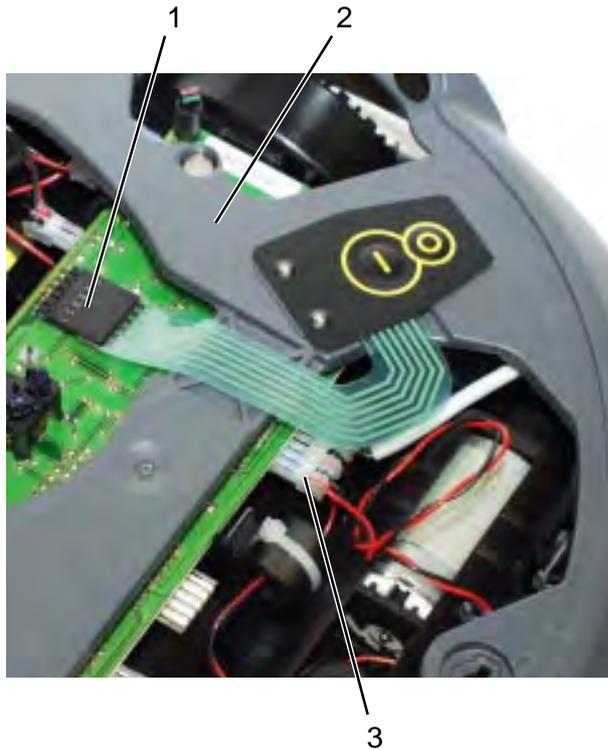
- 1 Suction motor
- 2 Infrared receiver, centre (2x)
(receiving direction from front)
- 3 Retainer (3x) for locking pin
- 4 Infrared receiver, left
(receiving direction from rear)
- 5 Solenoid for impact sensor (2x), controls
the correct change in direction when the
upper housing section encounters obsta-
cles
- 6 Unit ON push-button
- 7 Unit OFF push-button
- 8 Brush roller drive motor
- 9 Ribbon cable
- 10 Interference suppression coil
- 11 Connection, plug - service cable
- 12 Unit housing - upper section
- 13 Reset button

- 14 Main control printed circuit board
- 15 Infrared receiver, right
(receiving direction from rear)

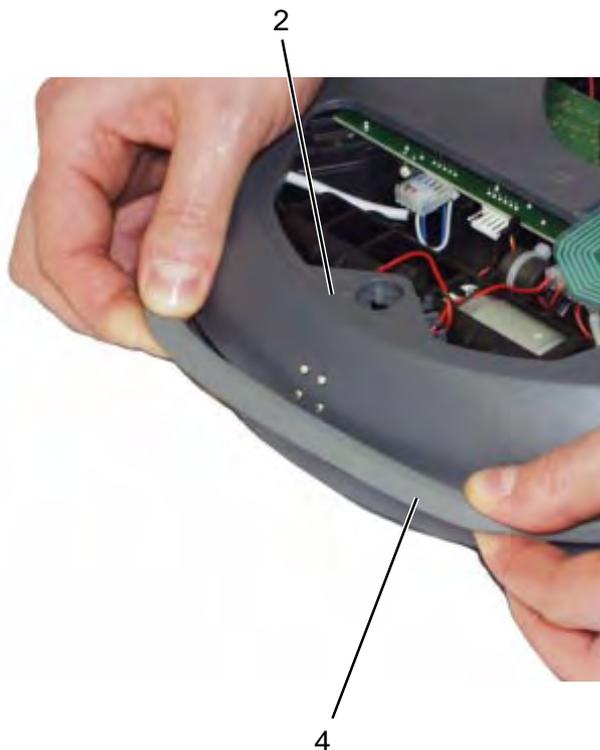
Note:

The connection (11) for the service cable and the reset button (13) are used for checking the robot using the service program.

Robot

**Removal of unit housing - upper section**

- Unplug connecting plug (1) of the ribbon cable.
- Pull off the connection cable for the charging contacts (3).



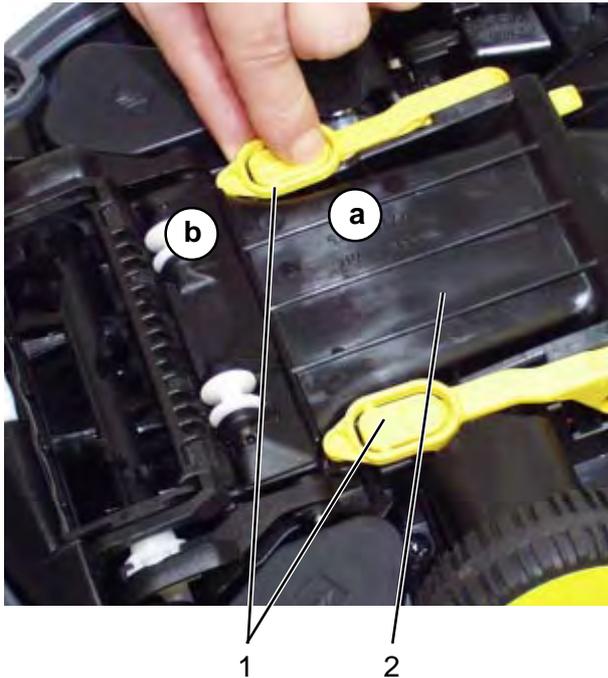
- Remove the bumper strip (4).

Note:

Do not overstretch the bumper strip in this process.

- 1 Connecting plug, ribbon cable
- 2 Unit housing - upper section
- 3 Connection cable for charging contacts
- 4 Bumper strip

Robot



Removal of unit housing - upper section

- Turn the robot over, unlock the locking devices (1) by pressing the bracket (a) and lifting up (b).
- Remove the cover (2) and return the locking devices to original position (1).



- Remove the fastening screws (4).

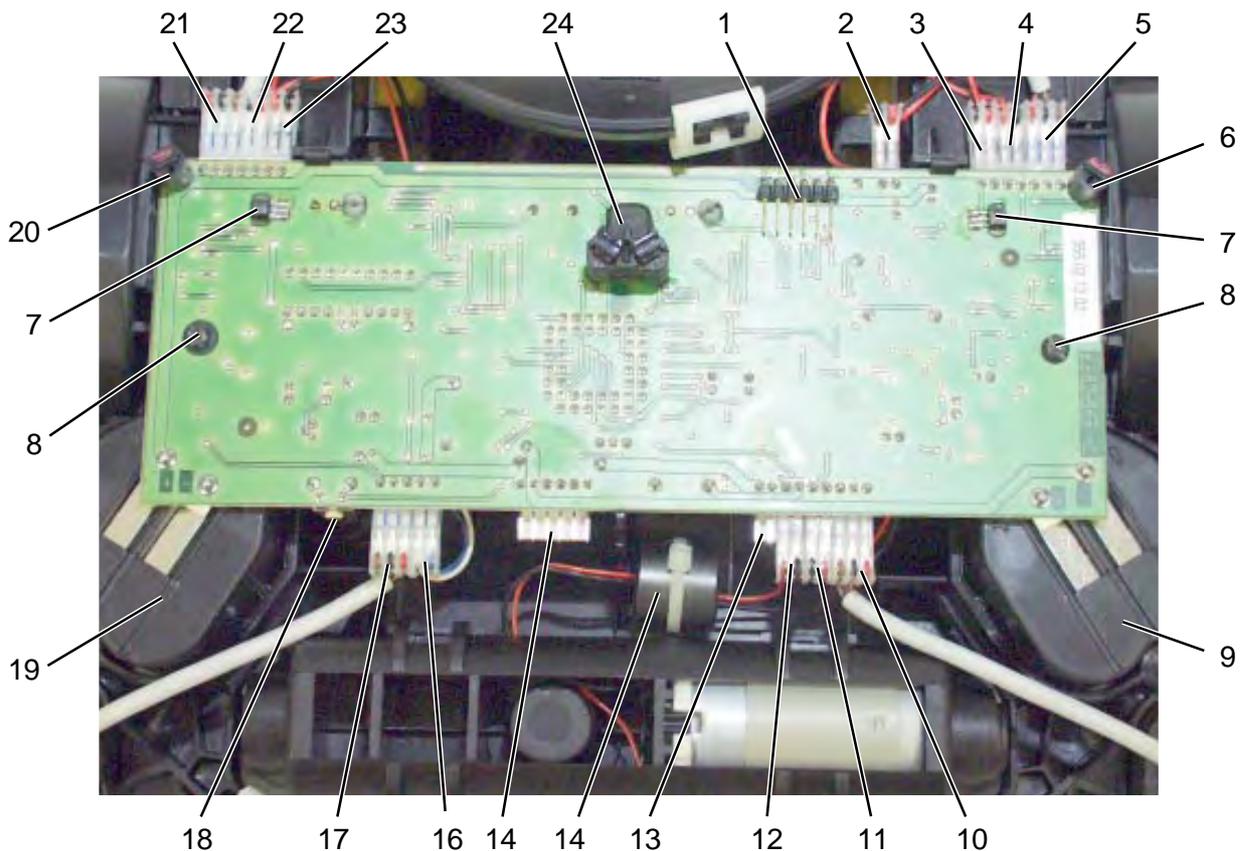
Note:

Do not change the position of the upper (5) and lower (6) sections of the unit housing, otherwise internal springs might work loose.

- Carefully turn the robot over again and remove the upper section (5) of the unit housing.

- 1 Locking device (1x each left and right)
- 2 Dust container cover
- 3 Dirt container with dust filter
- 4 Fastening screws (4x, Torx 8)
- 5 Unit housing - upper section
- 6 Unit housing - lower section

Robot - Upper section removed



- | | |
|--|--|
| 1 Connection, keypad ribbon cable | 18 Reset button |
| 2 Connection, suction motor (2-pin) | 19 Rechargeable battery, right |
| 3 Connection, left microswitch (2-pin) | 20 Infrared receiver, right
(receiving direction from rear) |
| 4 Connection, left drive motor (2-pin) | 21 Connection, optical sensor (3-pin) |
| 5 Connection, optical sensor (3-pin) | 22 Connection, right microswitch (2-pin) |
| 6 Infrared receiver, left
(receiving direction from rear) | 23 Connection, right drive motor (2-pin) |
| 7 Impact sensor (2x) | 24 Infrared receiver, centre
(receiving direction from front) |
| 8 Fastening screw (2x), main control
printed circuit board | |
| 9 Rechargeable battery, left | |
| 10 Connection, optical sensor (3-pin) | |
| 11 Connection, light barriers - receiver (2-pin
- cable colour red/black) | |
| 12 Brush motor connection (2-pin) | |
| 13 Charging contacts connection (2-pin) | |
| 14 Interference suppression coil for brush
motor | |
| 15 Plug - service cable connection | |
| 16 Connection, light barriers - transmitter
(2-pin - cable colour blue/white) | |
| 17 Connection, optical sensor (3-pin) | |

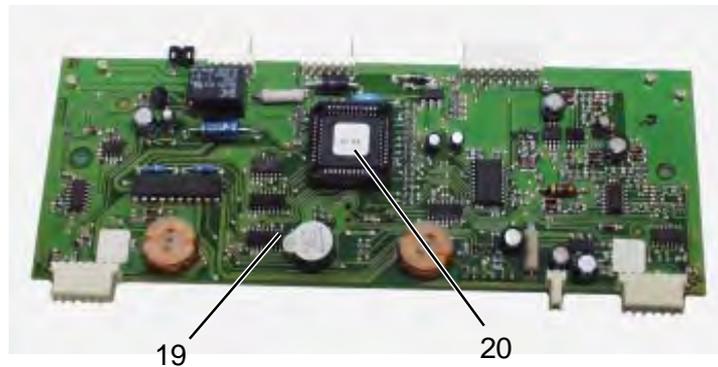
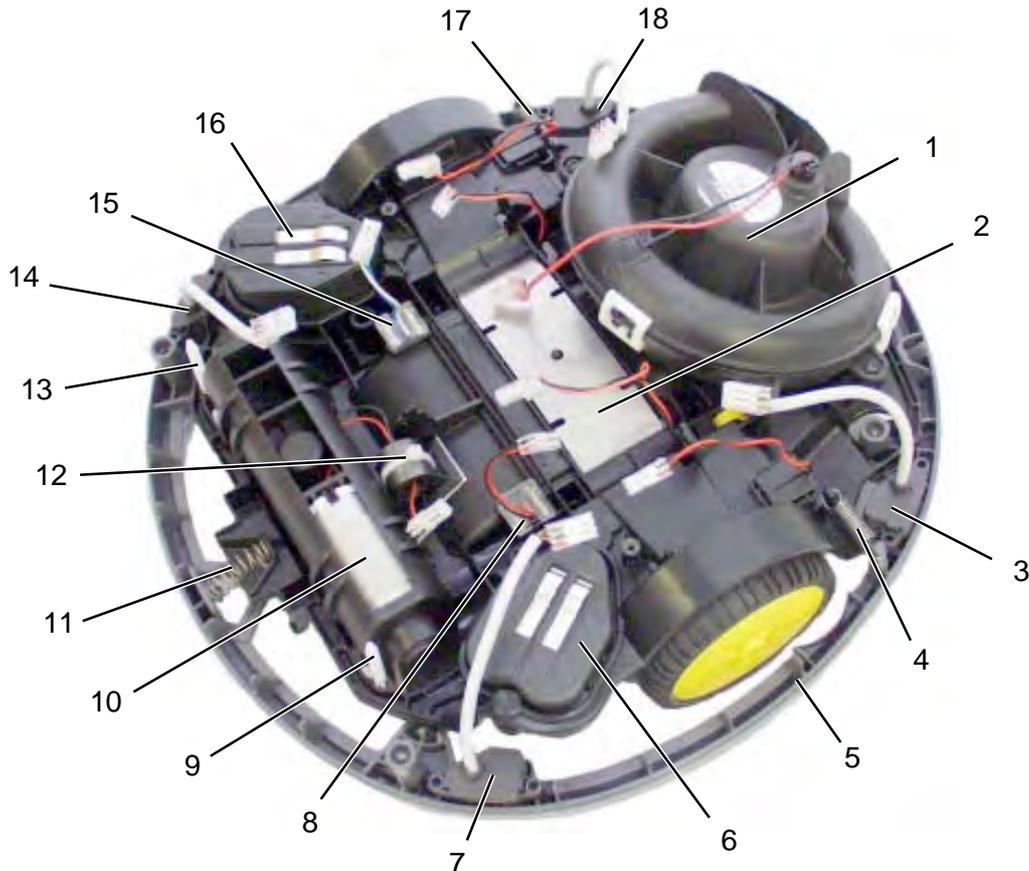
Remove main control printed circuit board

- Unplug all plugs.
- Remove fastening screws (8).
- Remove main control printed circuit board.

Note:

Incorrect connected connecting plugs cause malfunction or damage to the printed circuit board.

Robot - Upper section removed



Printed circuit board removed

- | | |
|---|--|
| 1 Suction motor | 12 Interference suppression coil |
| 2 Leaf spring | 13 Right spacer bracket |
| 3 Optical sensor, left rear | 14 Optical sensor, right front |
| 4 Tension spring, left | 15 Connection, light barriers - transmitter
(2-pin - cable colour blue/white) |
| 5 Unit housing - lower section | 16 Rechargeable battery, right |
| 6 Rechargeable battery, left | 17 Tension spring, right |
| 7 Optical sensor, left front | 18 Optical sensor, right rear |
| 8 Connection, light barriers - receiver
(2-pin - cable colour red/black) | 19 Main control printed circuit board, re-
moved (view from below) |
| 9 Left spacer bracket | 20 Processor with printed version number |
| 10 Brush motor | |
| 11 Compression spring | |

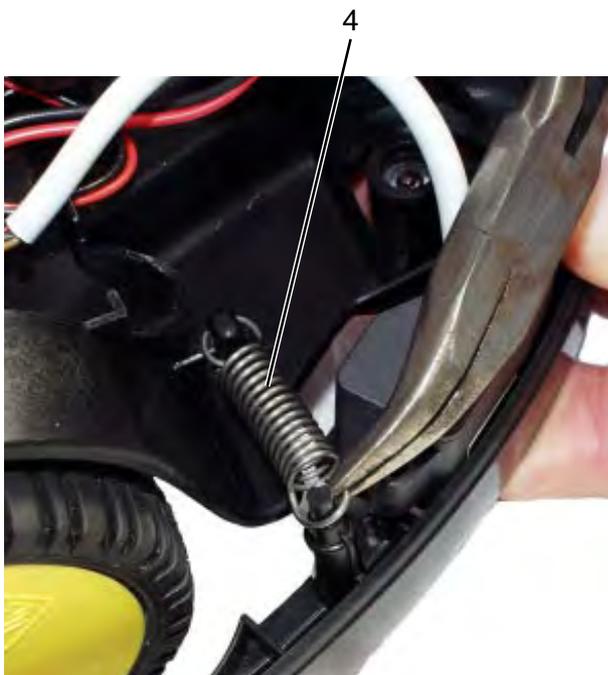
Robot

**Remove compression and tension springs**

When the robot bumps into obstacles, the unit housing is pushed back. This serves to alter the position of the impact sensors via the printed circuit board and to control the avoidance direction of the robot.

The tension and compression springs ensure that the unit housings return to a neutral position. If the springs have been mounted incorrectly, malfunction will result.

- Remove front compression springs (2).



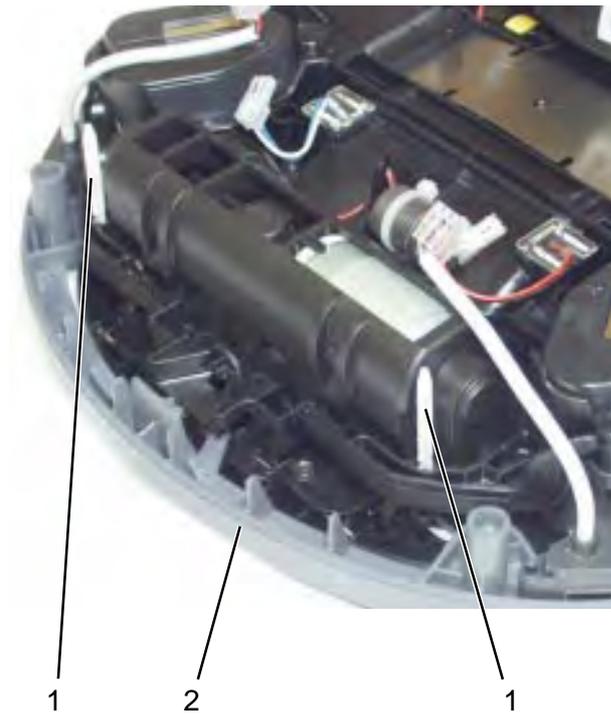
- Remove lateral tension springs (4, 1x each left and right).

Note:

The lateral tension springs (4) jump very easily from their positions. During assembly, ensure the correct seat of the tension (4) and compression (2) springs.

- 1 Unit housing - lower section
- 2 Front compression spring
- 3 Chassis
- 4 Lateral tension spring (1x each left and right)

Robot



- 1 Spacer bracket (2x)
- 2 Unit housing - lower section

Remove spacer bracket

The spacer brackets (1) ensure that the upper and lower section (2) always maintain the same distance from each other.

Robot

**Remove optical sensors**

- Pull out optical sensors (1).

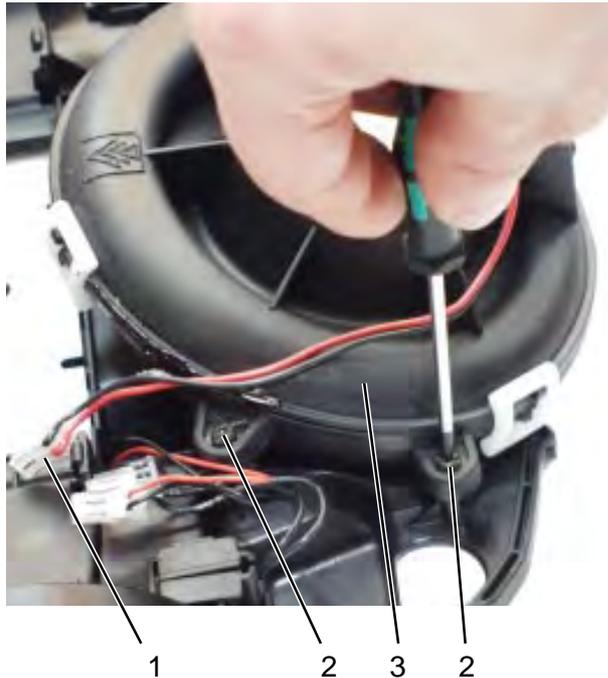
**Note:**

Watch out for different versions and designations of the optical sensors.

The optical sensors opposing each other diagonally are always identical.

- 1 Optical sensor (here: left rear)
- 2 Connecting cable, optical sensor (1)
- 3 Nameplate on optical sensor

Robot

**Remove suction motor**

- Unplug connecting plug (1) of the suction motor (3) from the printed circuit board.
- Remove fastening screws (2) from the suction motor (3) and remove suction motor (3).

Note:

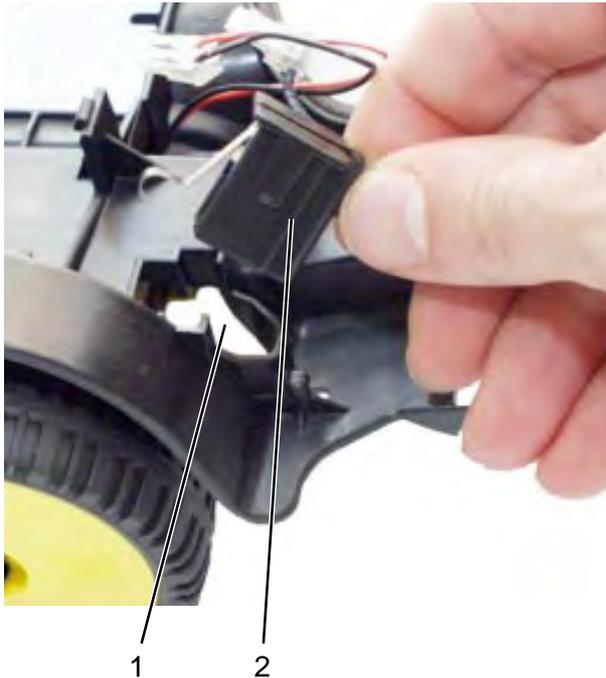
Completely replace the suction motor (3) in case of defects, as it cannot be repaired.

**Note:**

When installing the suction motor (3), check for correct seat and condition of the seal (4) at the vacuum intake underneath the suction motor (3).
Replace the seal (4), if required.

- 1 Connecting plug, suction motor
- 2 Fastening screw (4x, Torx 8)
- 3 Suction motor
- 4 Seal

Robot



- 1 Retainer for microswitch (2)
- 2 Microswitch

Remove microswitch

When the robot climbs a slope, the load on the drive wheels is relieved, causing the microswitches to open. When this happens, the robot will immediately switch to reverse, preventing the robot from bottoming.

- Pull microswitch (2) out of retainer (1).

Robot



Remove drive motor

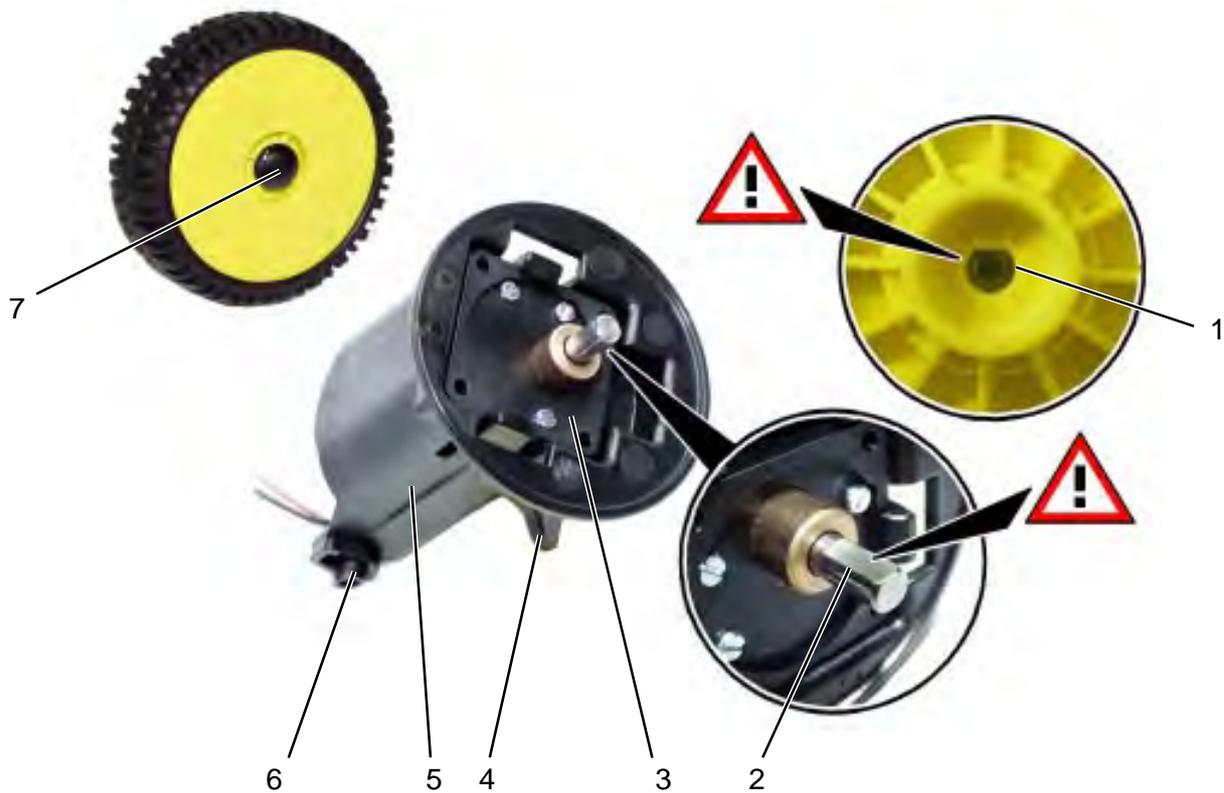
- Press retaining clips (1) together at the drive motor housing (2) and remove complete unit.



The leaf spring (4) always pushes the drive motors (1x each left and right) evenly to the ground.

- 1 Retaining clips, left and right
- 2 Drive motor housing
- 3 Retainer for microswitch
- 4 Leaf spring

Robot



- 1 Drive wheel
- 2 Drive shaft, drive motor
- 3 Drive motor
- 4 Actuating finger for microswitch
- 5 Drive motor housing
- 6 Retaining clip
- 7 Retaining cap

Remove drive motor

- Remove retaining cap (7) and drive wheel (1) from drive shaft (2).
- Pull out drive motor (3) from housing (5).

Install drive motor

- Push drive motor (3) into housing (5).

Note:

During installation observe the correct mounting position (refer to illustration) of the drive motor (2).

- Push drive wheel (1) onto drive shaft (2) and press on new retaining cap (7).

Note:

Observe the correct position of the flat parts of the shaft (2) and drive wheel (1). Always use a new retaining cap (7) as the old one will be damaged when it is removed.

- Clip complete drive unit back into robot.

Note:

Always observe the correct position of the actuating lever of the microswitch at the actuating finger (4). After the drive unit has been installed, check the operation of the microswitch.

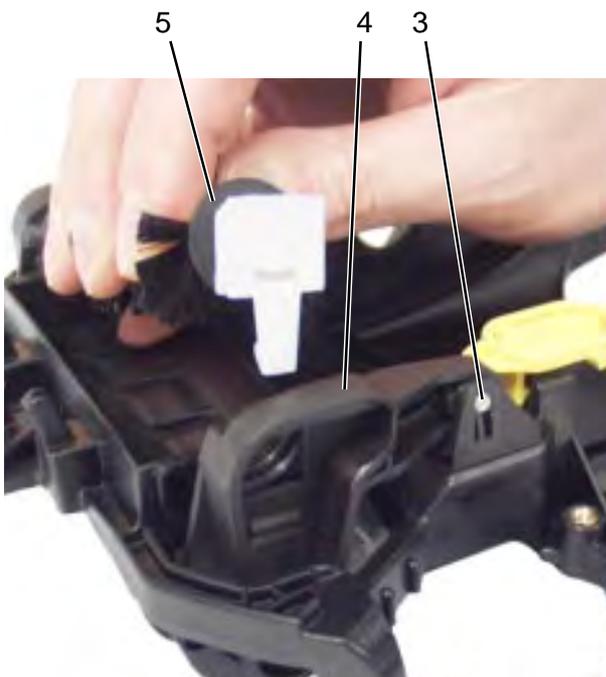
Robot

**Remove rechargeable batteries**

- Remove fastening screws (2) of rechargeable batteries (1) and remove batteries.

Note:

Always replace both rechargeable batteries together.

**Remove brush motor**

- Remove brush roller (5).
- Press out bearing pins (3) from the bearing brackets of the brush unit (4).
- Turn unit over.

- 1 Rechargeable battery (2x)
- 2 Fastening screws (4x, Torx 15), rechargeable battery
- 3 Bearing pin (1x each left and right)
- 4 Brush unit
- 5 Brush roller

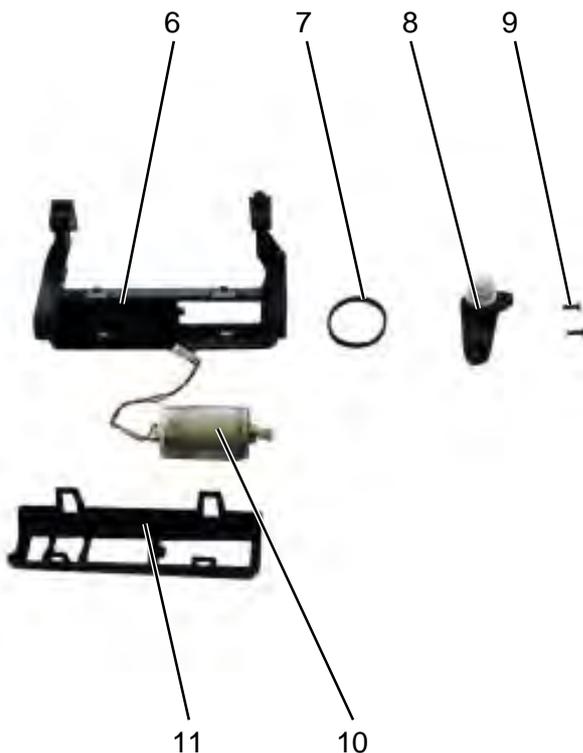
Robot

**Remove brush motor**

- Remove cable tie of the interference suppression coil (5) and remove complete brush unit (1) by pulling up and rotating.
- Remove fastening screws (9) and lid (8).
- Remove toothed belt (7).
- Remove cover (11) from the brush motor (10) and take out brush motor.
- Assemble in reverse order.

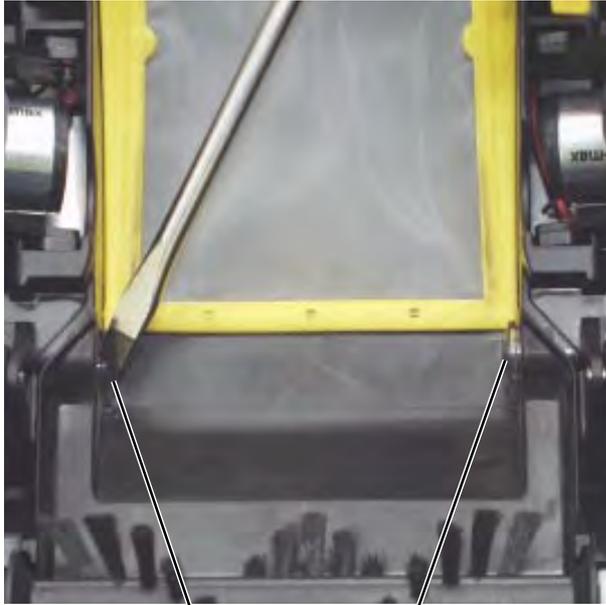
Note:

During assembly of the complete brush unit (1) check for correct seat of the compression spring (3) on the retainer at the chassis (2).



- 1 Brush unit, complete
- 2 Chassis
- 3 Compression spring
- 4 Retainer for cable tie, interference suppression coil
- 5 Interference suppression coil
- 6 Brush unit housing
- 7 Toothed belt
- 8 Lid, belt housing
- 9 Fastening screw (2x, Torx 8)
- 10 Brush motor
- 11 Brush motor cover

Robot



1

2

- 1 Light barriers - receiver
(cable colour red/black)
- 2 Light barriers - transmitter
(cable colour blue/white)

Remove light barrier for dirt control

- Remove main control printed circuit board (printed circuit board covers light barriers).
- Turn robot over and carefully press light barrier receiver (1) and transmitter (2) downwards out from the guides.

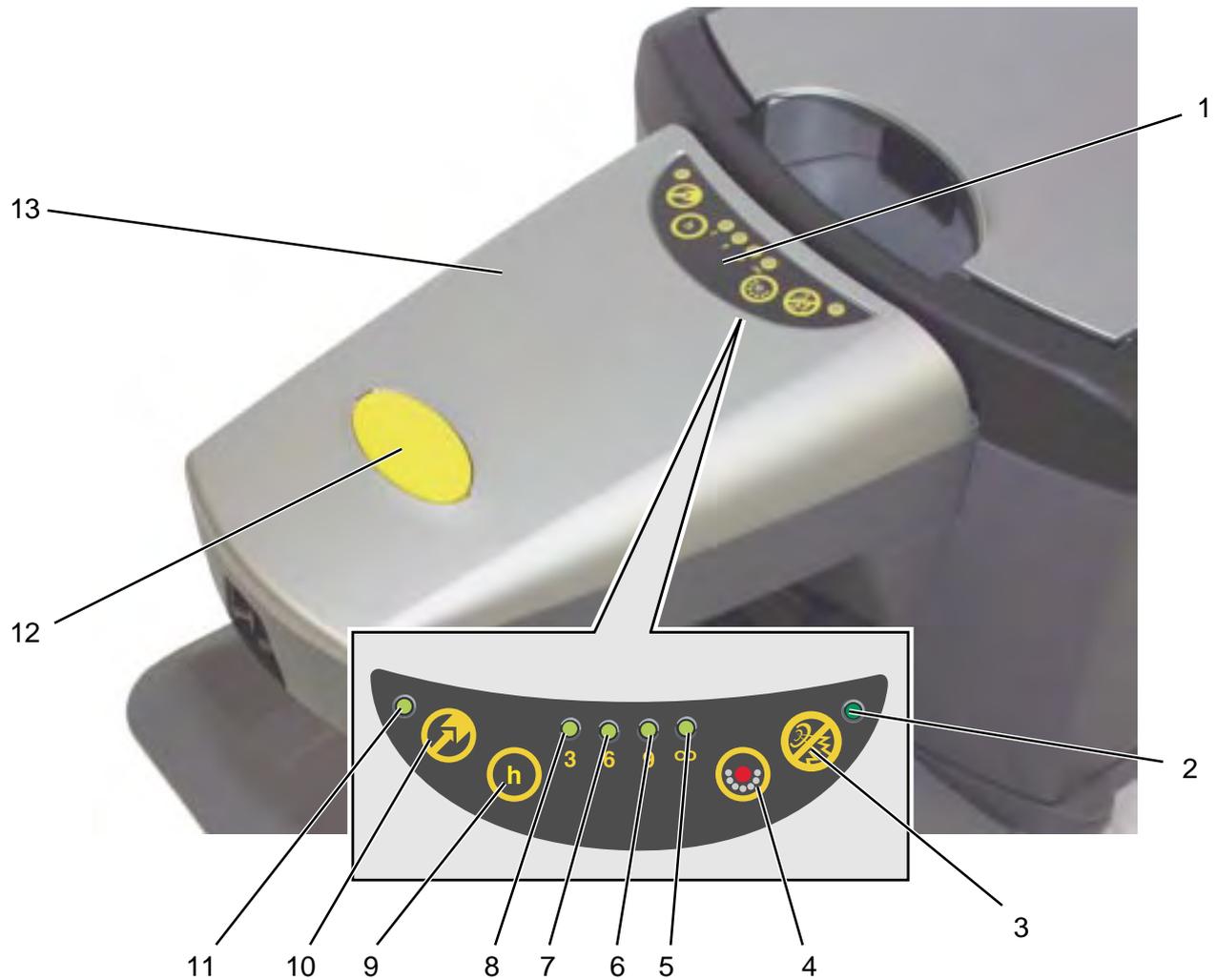
Note:

Do not interchange transmitter (2) and receiver (1) of the light barrier during installation, as the components may otherwise be destroyed.

Charging station - view from the front

- 1 Filter cover
- 2 Handle
- 3 Unit housing
- 4 Mains cable
- 5 Charging contacts
- 6 Wheel ramp for robot (for docking to the charging station)
- 7 Vacuum intake
- 8 Infrared transmitter, docking control
- 9 Infrared transmitter, driving control
- 10 Unit ON/OFF push-button
- 11 Instrument panel

Charging station - instrument panel



- 1 Instrument panel
- 2 Indicator lamp (green) - quiet operation
- 3 Quiet operation ON/OFF button
- 4 Indicator lamp (red) - filter bag full
- 5 Indicator lamp (green) - continuous operation
- 6 Indicator lamp (green) - cleaning time 9 hours
- 7 Indicator lamp (green) - cleaning time 6 hours
- 8 Indicator lamp (green) - cleaning time 3 hours
- 9 Cleaning time selection button
- 10 Robot parking ON/OFF button
- 11 Indicator lamp (green) - robot parking
- 12 Unit ON/OFF push-button
- 13 Housing cover

Charging station



Remove housing cover

- Remove fastening screws (1, 2x) from lower housing section (2).



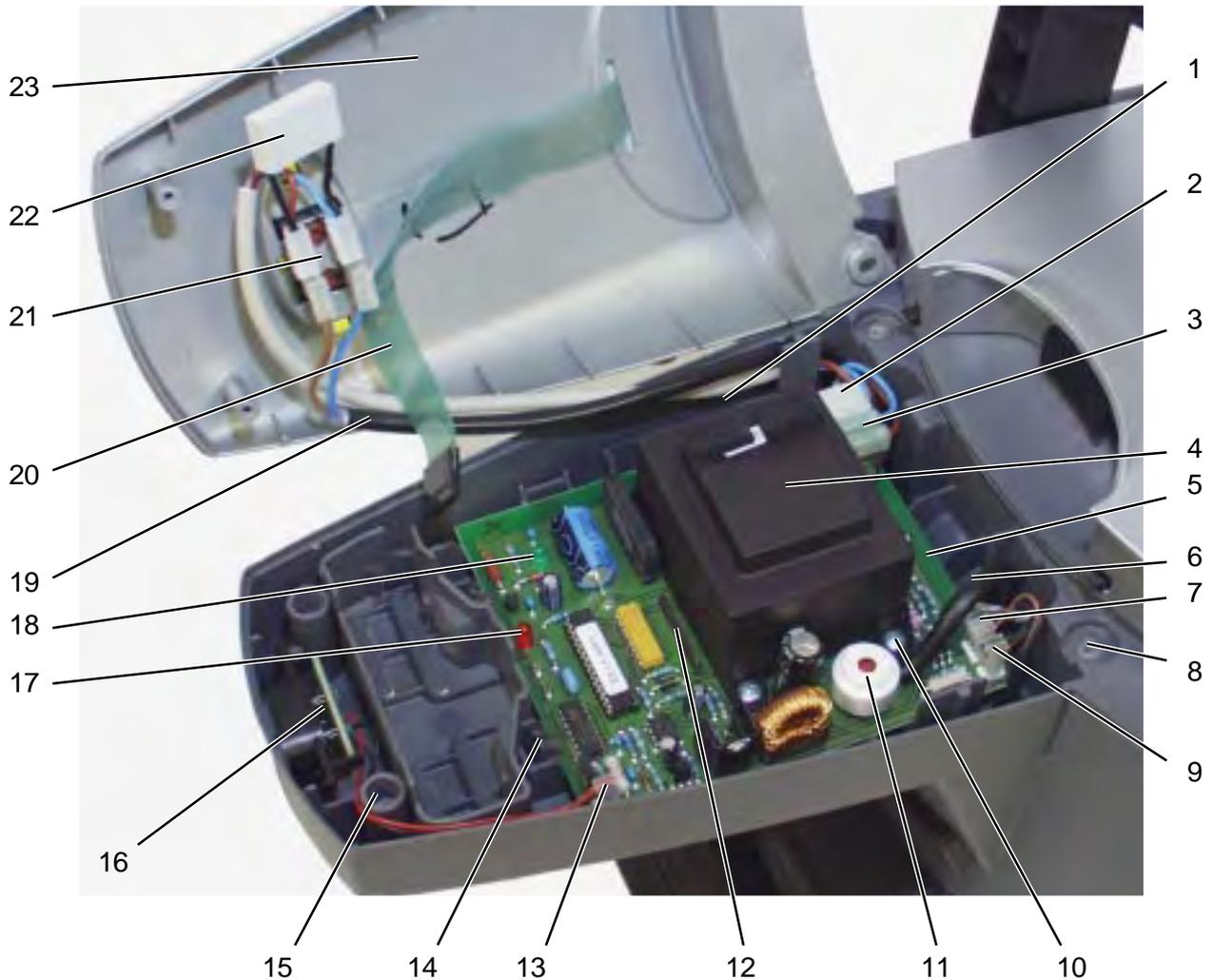
- Fold handle upwards.
- Remove fastening screws (4, 2x) from housing cover (3) and carefully remove housing cover (3).

Note:

Take care that the ribbon cable connecting the printed circuit board with the instrument panel is not severed when taking off the housing cover (3).

- 1 Fastening screw (2x, Torx 15), lower housing section
- 2 Housing, electronic control circuits
- 3 Housing cover
- 4 Fastening screw (2x, Torx 15), housing cover

Charging station - electronic control circuits



- | | |
|---|---|
| 1 Fuse | 16 Infrared transmitter drive control |
| 2 Unit switch to printed circuit board connection (white cable) | 17 LED, red |
| 3 Suction motor connection | 18 LED, green |
| 4 Transformer | 19 Mains cable to unit switch (black cable) |
| 5 Main control printed circuit board | 20 Ribbon cable instrument panel |
| 6 Vacuum hose for vacuum switch (11) | 21 Unit switch |
| 7 Charging contacts connection (3-pin) | 22 Interference suppression capacitor |
| 8 Fastening screws (2x from above) for housing cover (23) | 23 Housing cover |
| 9 Infrared transmitter docking control connection (2-pin) | |
| 10 Fastening screw, transformer with housing (4) | |
| 11 Vacuum switch | |
| 12 Ribbon cable (20) connection | |
| 13 Infrared transmitter (16) drive control connection | |
| 14 Retaining tab (4x) | |
| 15 Fastening screws (2x from below) for housing cover (23) | |

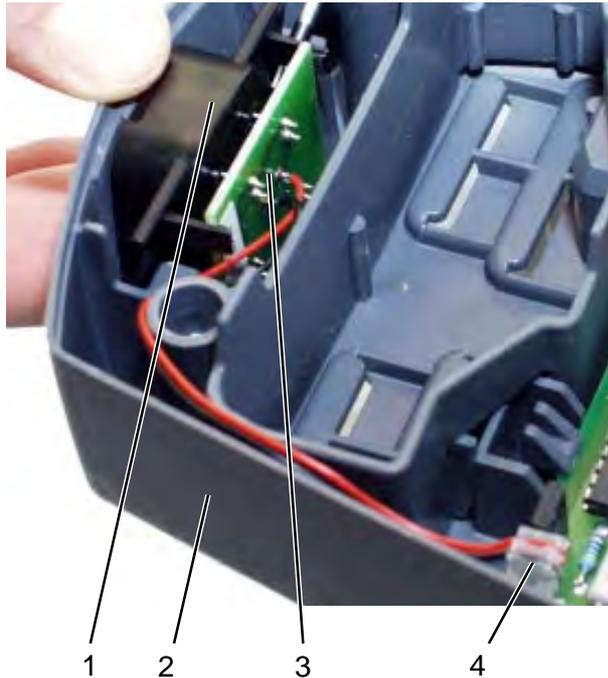
Remove main control printed circuit board

- Pull off connections from main control printed circuit board (5).
- Push the retaining tabs (14) back carefully while removing the main control printed circuit board upwards.

Note:

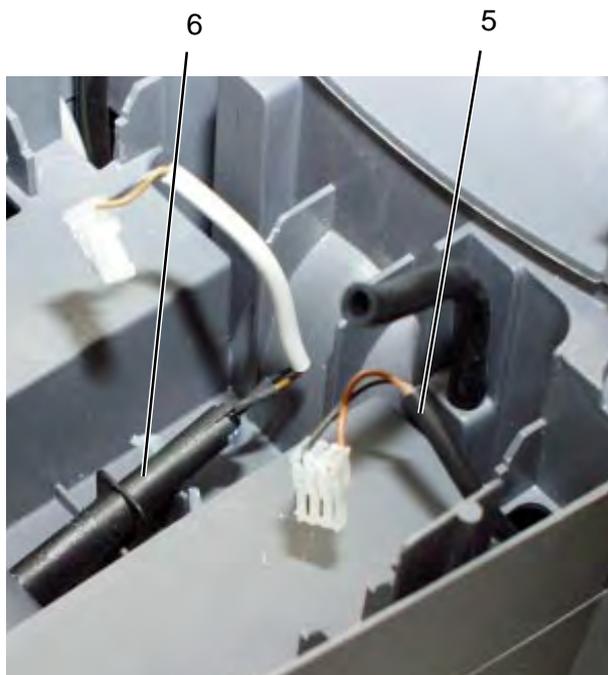
Take care that the ribbon cable connecting the printed circuit board with the instrument panel is not severed when taking off the housing cover (23). Do not kink or clamp during installation.

Charging station



Remove infrared transmitter, drive control

- Pull off connecting plug (4) from the main control printed circuit board.
- Pull housing (2) towards the front and lift out infrared transmitter housing (3) from its guides.



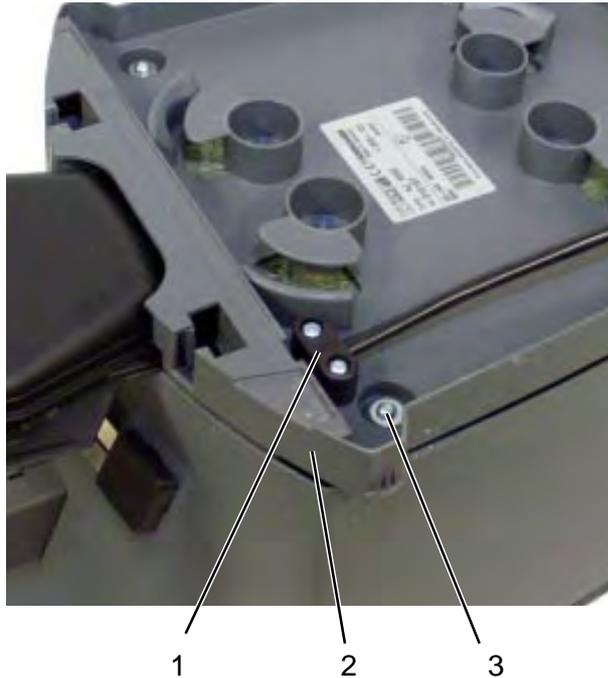
Remove infrared transmitter, docking control

The infrared transmitter (6) of the docking control is located underneath the main control printed circuit board.

- Remove main control printed circuit board.
- Remove infrared transmitter (6).

- 1 Infrared transmitter (3) housing
- 2 Electronic control circuits housing
- 3 Drive control infrared transmitter
- 4 Connecting plug, infrared transmitter
- 5 Charging contacts connecting cable (connecting cable 3-pin)
- 6 Docking control infrared transmitter (connecting cable 2-pin)

Charging station



Remove suction motor

- Remove fastening screws (3) of the base plate (2).
- Remove fastening screws (1) of the strain relief and take off base plate (2).



- Remove front fastening screws (5) of the suction aperture (4) and turn over charging station.

- 1 Strain relief fastening screws (2x, Torx 15)
- 2 Base plate
- 3 Base plate fastening screws (4x, Torx 15)
- 4 Suction aperture
- 5 Suction aperture fastening screws (2x, Torx 15)

Charging station



Remove suction motor

- Remove fastening screws (1, 2) (2x front under handle and 4x under filter cover (3)) from the housing upper section using a Torx screwdriver.
- Remove the housing cover of the main control printed circuit board (refer to page 25).



- Remove the connection cable from the suction motor (5), the mains cable (4) and the charging contacts (7).
- Pull out all three connection cables downwards.
- Remove complete housing upper section (6).

- 1 Fastening screws (2x), front under handle
- 2 Fastening screws (4x), under filter cover (3)
- 3 Filter cover
- 4 Mains cable
- 5 Suction motor connection cable
- 6 Housing upper section
- 7 Charging contacts connection cable (3-pin connection cable)

Charging station



1

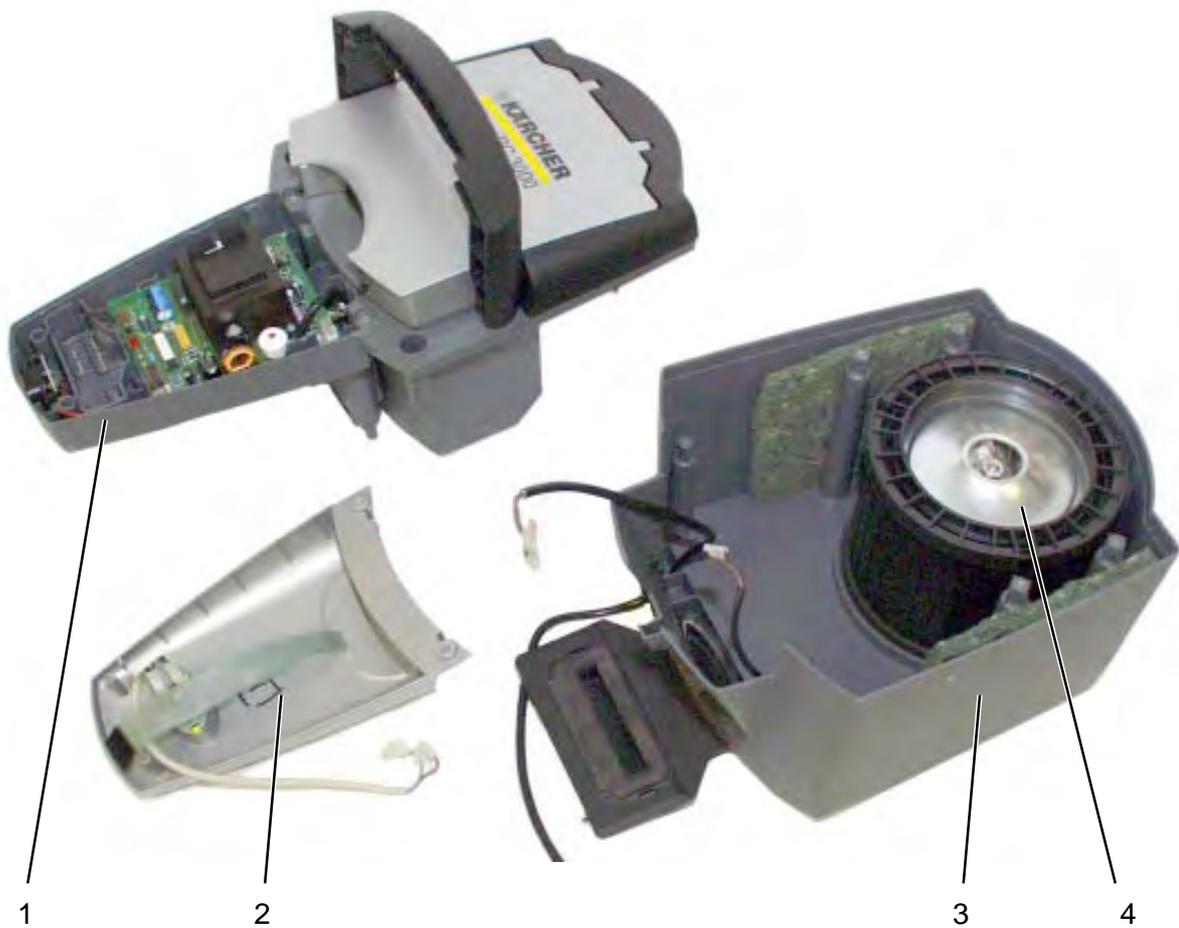
2

- 1 Suction motor connection cable
- 2 Suction motor

Remove suction motor

- Carefully turn over charging station.
- Pull out connection cable (1) of suction motor (2) from the housing.
- Turn over charging station once again.

Charging station



Remove suction motor

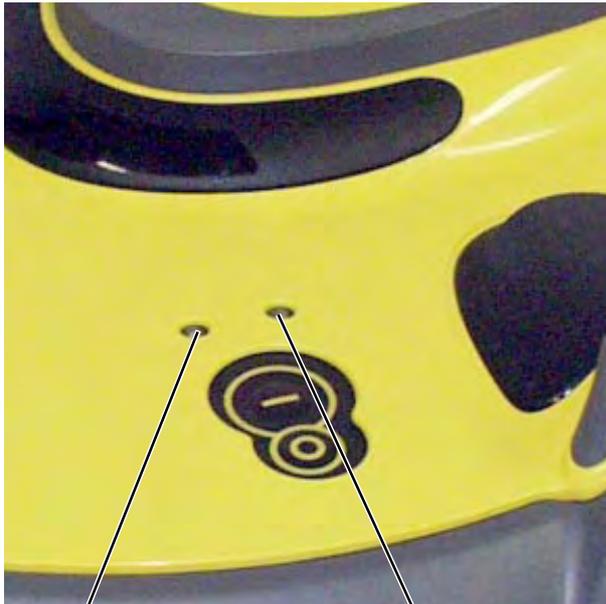
- Remove suction motor (4) from unit housing (3) complete with seals.
- Remove seal (5) and replace suction motor (6).
- Reassemble in reverse order.

Note:

Ensure that the seals on the suction motor sit correctly.

- 1 Unit housing - complete upper section
- 2 Housing cover
- 3 Unit housing
- 4 Complete suction motor
- 5 Seal
- 6 Suction motor - from below
- 7 Connection cable

Troubleshooting - indicator lamps on robot



1

2

- 1 Red indicator lamp, fault
- 2 Green indicator lamp, operation

The indicator lamps (1,2) on the robot indicate potential causes of faults by their flashing pattern.

Indicator lamp	Indication	Fault / Solution
green	Permanent light	- no fault - robot during cleaning operation.
green	Flashing slowly (1 sec on / 4 sec off)	- robot searching for charging station - fault only if robot cannot find charging station (refer to "Troubleshooting", page 41).
green	Flashing fast (0.5 sec on/0.5 sec off)	- no fault, robot is standing at charging station and charging batteries.
red	Flashing fast (0.5 sec on/0.5 sec off)	- robot has become stuck - free robot, switch off and switch on again.
red	Flashing slowly (1 sec on/4 sec off)	- dirt container is full - clean dirt container.
red	Permanent light	- fault in robot (refer to "Troubleshooting", page 41)

Troubleshooting - „SEDIS“ diagnostic program



„SEDIS“, the **S**ervice **D**iagnostic **S**oftware, allows all electrical components of the robot to be checked for defects on a laptop using a service cable and offers repair solutions.

Note:

The „SEDIS“ diagnostic program only checks the robot functions. For a functional check of the charging station refer to pages 37 et sgg.

Installation

- Insert the „SEDIS“ CD into the CD-ROM drive.

Note:

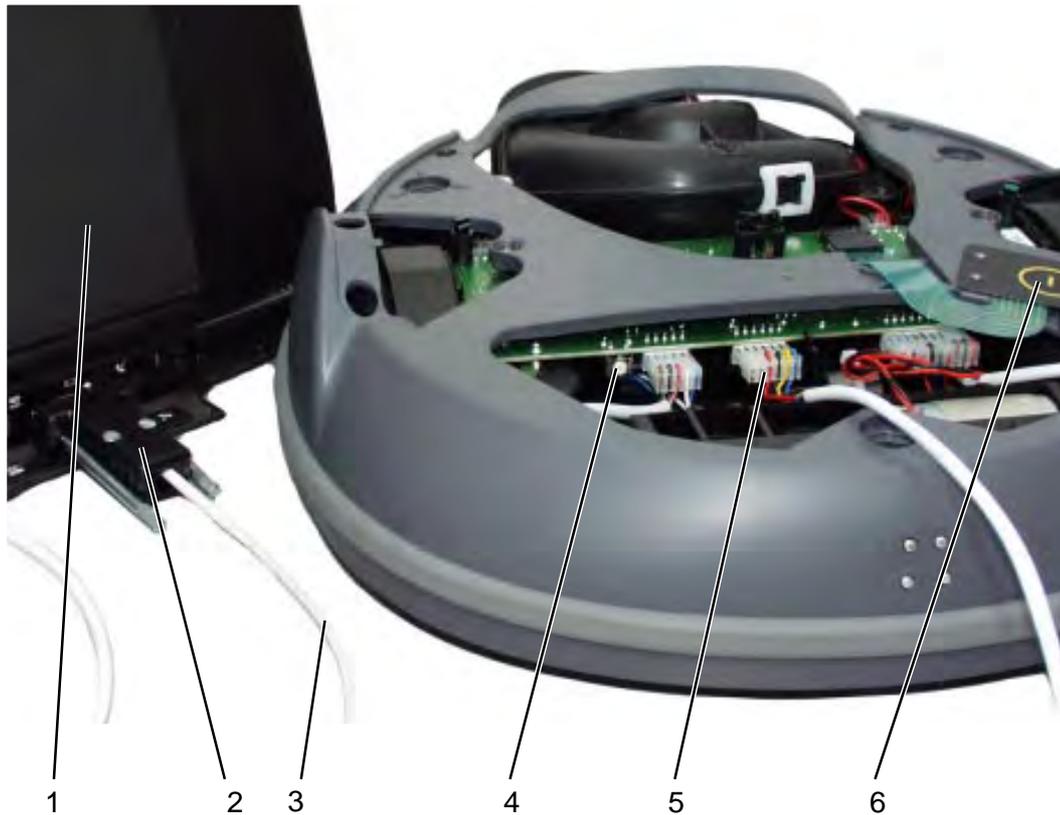
Installation starts automatically.

- Follow the prompts displayed on the screen.

Test preparations

- After the installation has been completed, click the „Diagnosis“ button.

Troubleshooting - „SEDIS“ diagnostic program



- 1 Laptop
- 2 Service cable connection on laptop
- 3 Service cable
- 4 Reset button
- 5 Service cable connection on robot
- 6 Unit ON button

Test preparations

Follow the instructions of the diagnostic program:

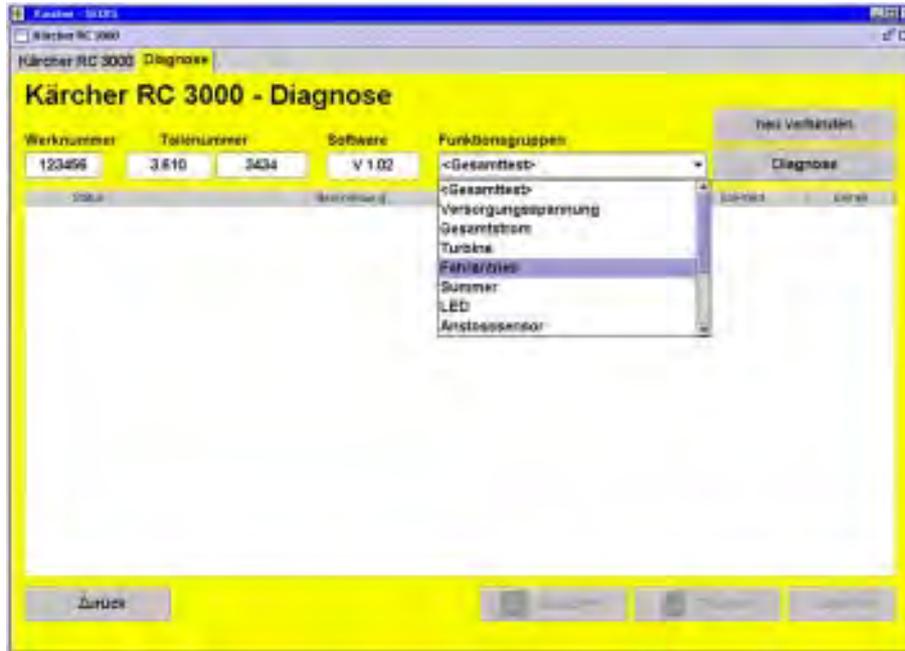
- Connect service cable (3) to the serial port (2) on the laptop (1).
- Remove the unit cover from the robot (refer to page 7).
- Switch on robot and press the reset button (4) on the main control printed circuit board within 2 seconds.
- Plug the service cable into the connection (5) of the main control printed circuit board at the robot.

Note:

Make sure the plug is inserted the right way round:

- the cable must exit downwards.

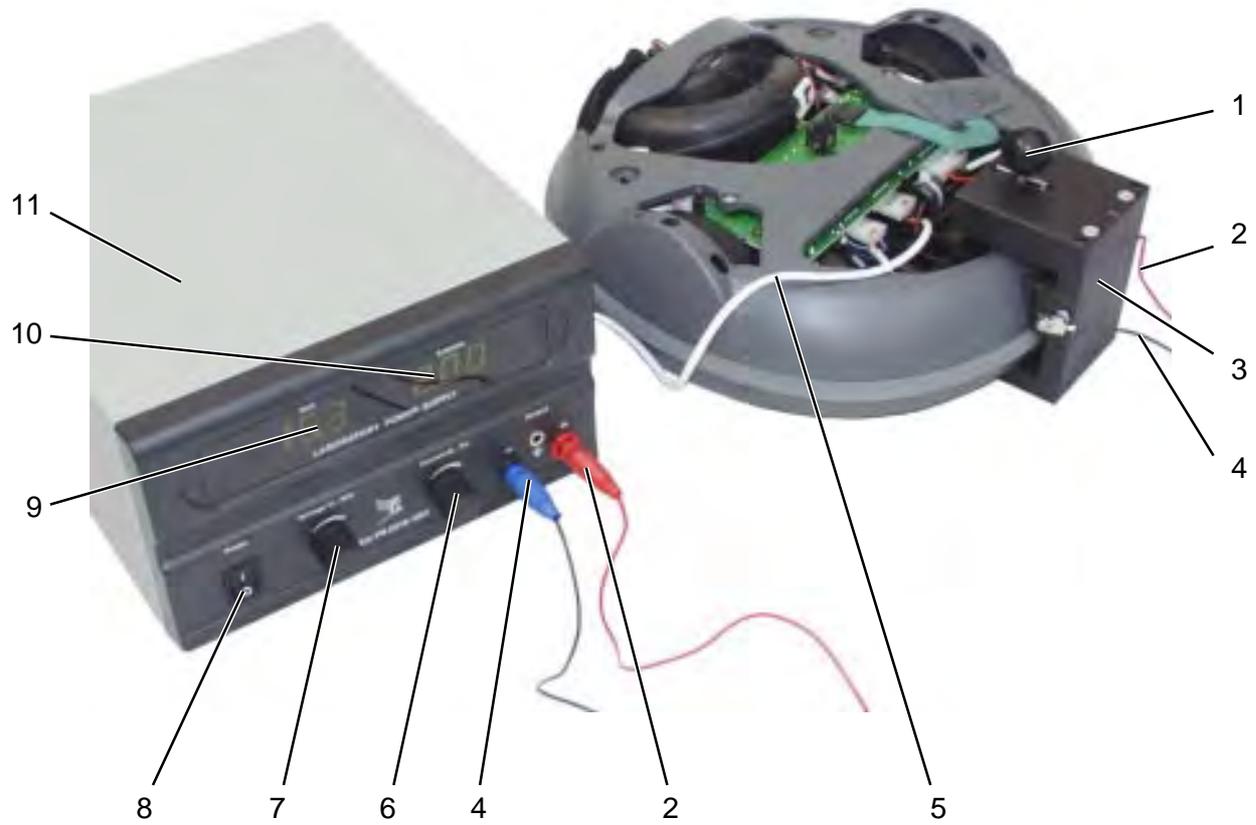
Troubleshooting - „SEDIS“ diagnostic program



Check functions

- The following functional checks can be performed:
 - <Complete test>
 - Supply voltage
 - Total current
 - Suction motor
 - Drive system
 - Buzzer
 - LED
 - Impact sensor
 - Infrared sensor
 - Dust light barrier
 - Charging station
 - Optical sensor
 - Brush motor
- Click the „Diagnosis“ button to start the functional check.
- Observe any prompts displayed.
- Evaluate the results displayed and remedy any defects.

Troubleshooting - „SEDIS“ diagnostic program



- 1 Locking bolt, special tool
- 2 Charging cable (“+” pole)
- 3 Special tool (6.648-857)
- 4 Charging cable (“-” pole)
- 5 Service cable to laptop
- 6 Rotary regulator, current
- 7 Rotary regulator, voltage setting
- 8 Unit ON/OFF switch
- 9 Voltage display
- 10 Current display
- 11 Power pack

Connect power pack

For the „Complete test“ and „Charging station“ test items, it is necessary to simulate the charging function.

- Carry out the test preparations (refer to page 34).
- Place special tool (3) on the robot. The locking bolt (1) must engage in the retainer for the front locking pin.

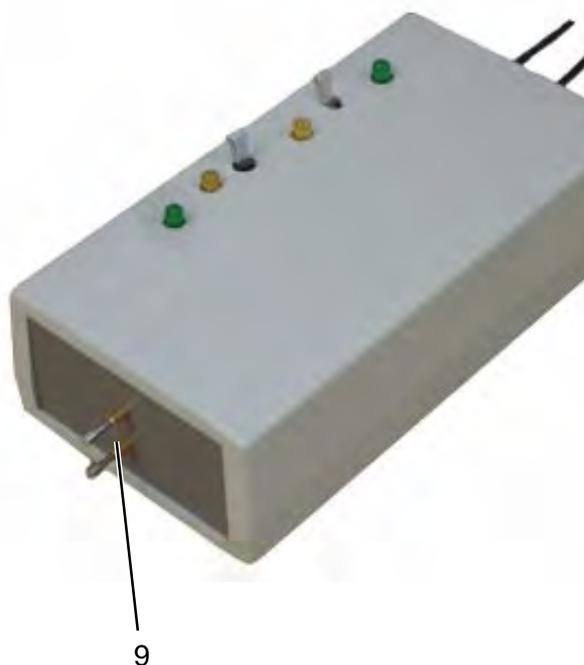
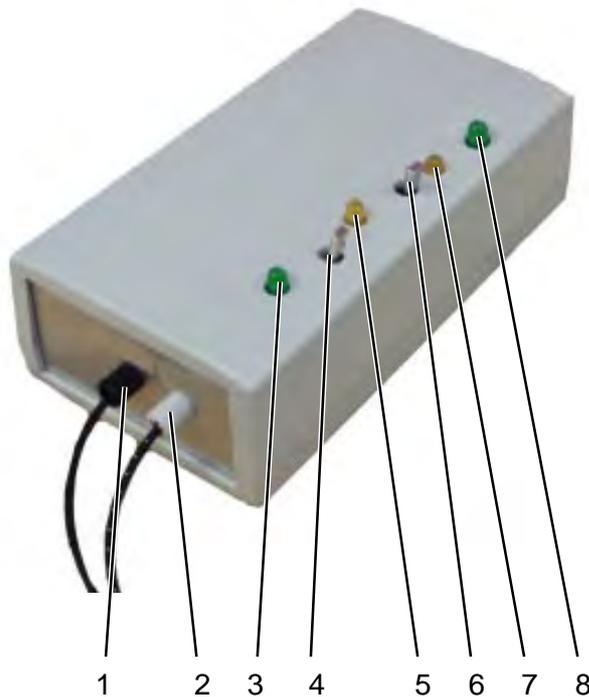
Note:

Ensure correct polarity when connecting to the power pack.

- Connect connection cable (2, 4) with the power pack (11).
- Switch on power pack (11) and set voltage to 16 V at the rotary regulator.
- Set current to 2A on rotary regulator (6).

Troubleshooting - Test unit

The test unit is used to check the functions of the charging station and robot.



- 1 Optical-fibre cable (IR IN)
- 2 Optical-fibre cable (IR OUT)
- 3 Indicator lamp (green)
- lights up when optical-fibre cable (2) is transmitting
- 4 Monitoring switch for switching between the dirt control light barrier test and the infrared receiver of the robot (navigation)
- 5 Indicator lamp (yellow)
- lights up when the charging station infrared beam is transmitting and the optical-fibre cable (1) is receiving
- 6 Master switch, test unit ON/OFF
- 7 Indicator lamp (yellow)
- lights up when the master switch is in ON position and the test unit battery is ok
- 8 Indicator lamp (green)
- lights up when charging current is flowing
- 9 Contact pins, charging current functional check

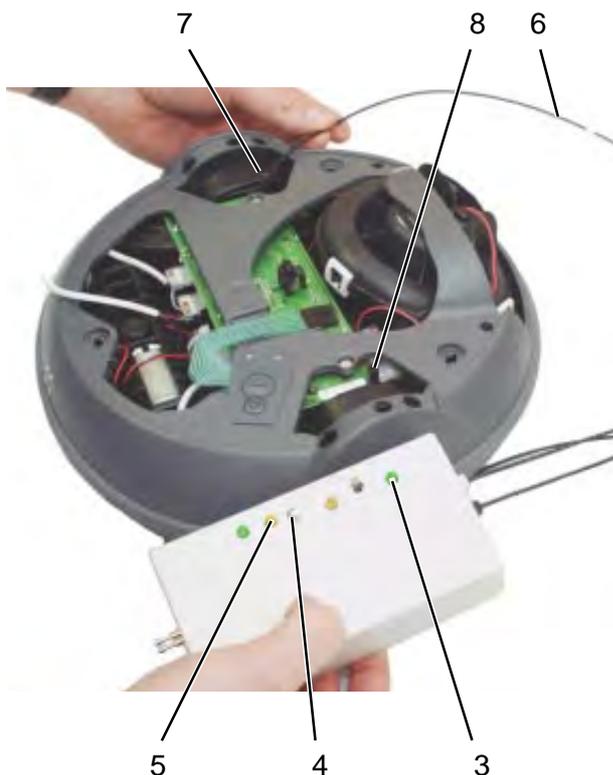
Troubleshooting - „SEDIS“ robot diagnostic program



For the „Infrared sensor“ test item it is necessary to simulate the infrared beams of the charging station using the test unit.

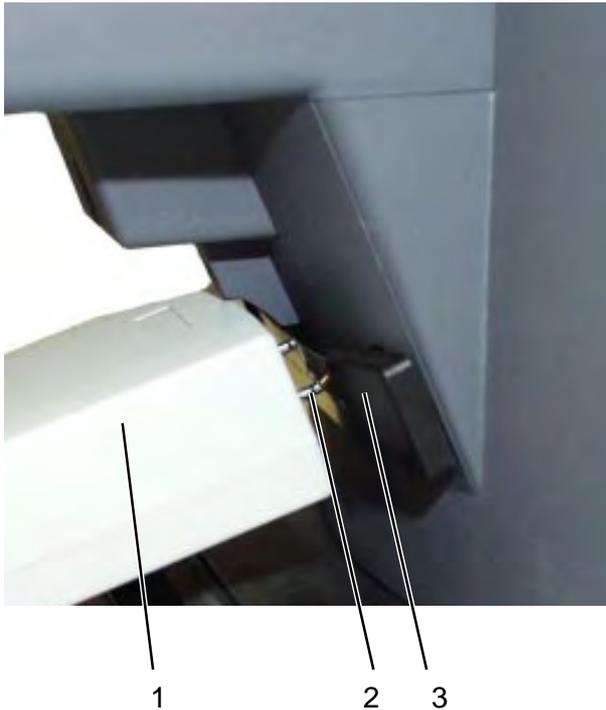
- Carry out the test preparations (refer to page 34).
- Switch on test unit at master switch (4).
- Hold the optical-fibre cable (IR OUT, 6) in front of the infrared receivers (2, 7, 8).

The infrared receivers (2, 7, 8) then pass the received signal on to the diagnostic program via the service cable (1). The signals are evaluated by the program.



- 1 Service cable to laptop
- 2 Infrared receiver, centre (2x) (receiving direction from front)
- 3 Indicator lamp (green)
 - lights up when optical-fibre cable (2) is transmitting
- 4 Master switch, ON position
- 5 Indicator lamp (yellow)
 - lights up when the master switch is in ON position and the test unit battery is ok
- 6 Optical-fibre cable (IR OUT)
- 7 Infrared receiver, right (receiving direction from rear)
- 8 Infrared receiver, left (receiving direction from rear)

Troubleshooting - Charging station



Note:

Always allow the test unit (1) to cool down before repeating tests; it becomes heated due to the charging current. The integrated thermal protection protects the test unit against damage due to excessive heating.

Check charging function and suction motor

- Switch on charging station.
- Press the contact pins (2) of the test unit (1) against the contact plates (3) of the charging station.
- The suction motor of the charging station must now start up and switch off again after approx. 30 seconds.
- The green indicator lamp (5) must light up to indicate that the charging current is flowing.



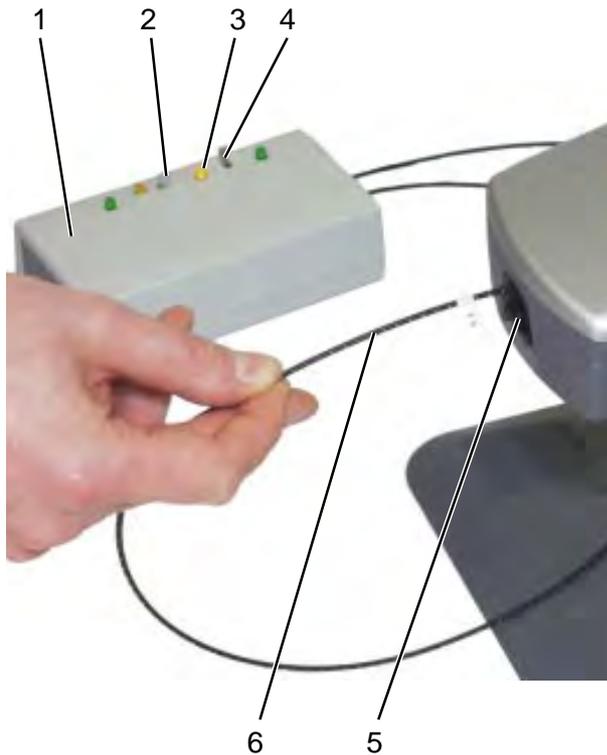
Check vacuum switch and filter indicator

The filter indicator is controlled via the vacuum switch on the main control printed circuit board.

- Switch on charging station.
- Cover the vacuum intake of the charging station (2) to simulate a full filter bag.
- Press the contact pins of the test unit (1) against the contact plates of the charging station.
- The suction motor of the charging station must now start up and switch off again after approx. 30 seconds.
- The LED of the filter indicator (red) on the charging station instrument panel must light up.
- After a renewed test without covering the vacuum intake, the filter indicator LED must go out.

- 1 Test unit
- 2 Contact pins, test unit
- 3 Contact plate, charging station
- 4 Cover (e.g. sheet of paper)
- 5 Indicator lamp (green)

Troubleshooting - Charging station



Check infrared transmitter, drive control

- Switch on charging station and test unit (1).
- Set monitoring switch (4) to "Navigation".
- Hold the optical-fibre cable (6, IR IN) directly against the four lenses of the infrared transmitter (5). Test each of the four lenses individually.

The yellow indicator lamp (3) must:

- light up when the infrared beam of the charging station is detected by the test unit (1).
- extinguish when the infrared beam of the charging station is no longer detected by the test unit (1).



Check infrared transmitter, docking control

- Switch on charging station and test unit (1).
- Set monitoring switch (4) to "Navigation".
- Hold the optical-fibre cable (6, IR IN) into the docking control (7).
- The yellow indicator lamp (3) must:
 - light up when the infrared beam of the docking control is detected by the test unit (1).
 - extinguish when the infrared beam of the docking control is no longer detected by the test unit (1).

- 1 Test unit
- 2 Master switch, ON position
- 3 Indicator lamp (yellow)
- 4 Monitoring switch
- 5 Infrared transmitter, drive control
- 6 Optical-fibre cable (IR IN)
- 7 Docking control

Troubleshooting

Fault	Solution
Robot without function (batteries are completely discharged)	- Recharge batteries (press robot for app. 60 seconds against the contact plates of the charging station).
Robot does not move / does not move in straight line	- Start SEDIS test program (refer to page 33 et sgg.). Note: Robot moves 10 m (393.7 in) max. in a straight line.
Robot does not move / brush roller does not rotate	- Start SEDIS test program (refer to page 33 et sgg.).
No suction in robot	- Start SEDIS test program (refer to page 33 et sgg.).
Poor cleaning result	- Check brush roller for wear, dirt, correct seat and seat correctly or replace, if required. - Check / Clean pick-up aperture of the charging station.
Robot creates dust	- Check dust filter in the dirt container for correct seat or damage and insert correctly or replace, if required. - Check seal underneath the suction motor for correct seat or damage and insert correctly or replace, if required.
Robot does not find charging station / does not dock correctly with charging station	For robot: - Start SEDIS test program (refer to page 33 et sgg.). For charging station: - Check whether charging station is level on floor. - Check charging station with test unit (refer to page 39 et sgg.).
Robots falls down stairs	- Start SEDIS test program (refer to page 33 et sgg.).
Robot generates unusual noise	- Check brush roller for wear, dirt, correct seat and seat correctly or replace, if required. - Check brush unit for easy movement / Replace. - Check toothed belt of brush unit / Replace. - Check drive wheels for easy movement / Replace.
No suction in charging station	- Check connection cable / Plug in. - Check paper filter bag, replace if required. - Check vacuum motor filter, replace if required. - Check main control printed circuit board and vacuum switch with test unit / Replace (refer to page 39 et sgg.). - Check suction motor with test unit / Replace (refer to page 39 et sgg.).
Charging station does not charge batteries.	For robot: - Start SEDIS test program (refer to page 33 et sgg.). For charging station: - Check charging function with test unit (refer to page 39 et sgg.).

Before commencing work on the open robot or the printed circuit board always use an earthing cable, otherwise the sensitive components of the printed circuit board may become damaged as a result of static charges.

Technical specification

Unit type	Unit no.	Circuit diagram	Operating instructions	Spare parts list
RC 3000 * EUR	Complete unit: 1.269-101 Robot: 3.610-076	Robot: 0.088-509 Charging station: 0.088-615	5.959-915	5.958-945
RC 3000 * CH	Complete unit: 1.269-102 Robot: 3.610-083	Robot: 0.088-509 Charging station: 0.088-615	5.959-915	5.958-945
RC 3000 * GB	Complete unit: 1.269-103 Robot: 3.610-084	Robot: 0.088-509 Charging station: 0.088-615	5.959-915	5.958-945
RC 3000 * AUS	Complete unit: 1.269-104 Robot: 3.610-085	Robot: 0.088-509 Charging station: 0.088-615	5.959-915	5.958-945

The technical specification sheets and circuit diagrams are on the next edition of the spare parts CD-ROM (DISIS) and in the Intranet.

Technical specification sheet: folder "Central / Service Info Int'l / Technical Specifications"
circuit diagram: folder "Central / Service Info Int'l / Circuit Diagram"

Further operating instructions and spare parts list as paper documents can be ordered with the corresponding part number from our Spare Parts Department.

Special tool

Key for unlocking the unit cover	5.873-009
Torx screwdriver T8	6.815-177
Torx screwdriver T10	6.815-131
Torx screwdriver T15	6.815-116
Service cable, robot - laptop	6.648-853
Test unit, for checking the charging station and the robot (in connection with the „SEDIS“ diagnostic program)	6.631-000
„SEDIS“ diagnostic program	6.630-345
Charging cable (to simulate the charging operation with the power pack)	6.648-857
Power pack , (0 - 16 V, 0 - 2 A)	without part number
Earthing cable	without part number

Tightening torques

Torx screws	0,5 - 1,8 Nm
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