

# VACUUM ASPIRATION SYSTEM

*BVC basic*

*BVC control*

*BVC professional*

*BVC basic G*

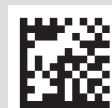
*BVC control G*

*BVC professional G*

*VHC<sup>pro</sup>*



## Instructions for repair



## **Original instructions Keep for further use!**

*This manual is only to be used and distributed in its complete and original form. It is strictly the user's responsibility to carefully check the validity of this manual with respect to the product.*

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*Thank you for purchasing this product from **VACUUBRAND GMBH + CO KG**. You have chosen a modern and technically high quality product.*

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# 1 Introduction

Make yourself familiar with the device.

Use this manual as reference for the repair of your device.

## 1.1 User information

### Safety

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Instructions for use  
and safety

- Read this manual thoroughly and completely before starting repair. Keep this manual in an easily accessible location.
- Observe all safety instructions provided also in the instructions for use of the device and in the document "Safety instructions for vacuum equipment"! The document "Safety information for vacuum equipment - Sicherheitshinweise für Vakuumgeräte" is part of the instructions for use!
- In addition to this manual, adhere to any relevant local accident prevention regulations and comply with industrial safety regulations.

### General

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General  
information

- The illustrations in this manual are provided as examples. They are intended to aid in your understanding.
- **VACUUBRAND GMBH + CO KG** reserves the right to modify or change the product design and/or technical specifications at any time without advanced notice.

### Copyright

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Copyright ©

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## Contact us

## Contact

- Please ask for replacement in case of incomplete instructions for use. Alternatively, you can download instructions for use on our web page: [www.vacuubrand.com](http://www.vacuubrand.com).
- Contact us regarding any questions about this product, if you need further information, or to provide us with feedback.
- When contacting our Customer Service Department, please be sure to have the data from the rating plate.

## 1.2 About this document

### 1.2.1 Symbols and icons

## Safety symbols



General danger sign.



Caution! Electrical voltage!



Disconnect equipment from AC power.



Read manual.

## Additional icons



Attention!  
Observe precautions for handling electrostatic sensitive devices.

## Convention for additional notes



Refers to content of other documents.

## Additional notes

**IMPORTANT!** Information or specific use recommendation, which must be observed.






- ⇒ Helpful tips
- ⇒ Additional information

## 1.2.2 Display conventions

### Warning levels

Convention for  
warnings

	<b>DANGER</b>
	<b>Indicates an imminent hazardous situation.</b> Disregarding the situation will result in serious and even fatal injury or death. ⇒ Take appropriate action to avoid dangerous situation!
	<b>WARNING</b>
	<b>Indicates a potentially hazardous situation.</b> Disregarding the situation could result in serious, even fatal injury or massive damage to property. ⇒ Observe instruction to avoid dangerous situation!
	<b>CAUTION</b>
	<b>Indicates a potentially hazardous situation.</b> Disregarding the situation could result in slight or minor injury or damage to property. ⇒ Observe instruction to avoid dangerous situation!

### Individual step (single step)

Design of steps

⇒ Do the described step.

☒ Result of action.

### Multiple steps

Graphic

1. First step,
2. next step.

☒ Result of action.

Follow steps in the described order.

## 2 Safety instructions

All safety instructions must be observed by all individuals working with the products described here.

Maintenance and repair are intended to ensure the functional condition or the return to function in the event of a failure.

Repair includes troubleshooting and remedy.

### 2.1 Target groups

Qualified  
personnel

Maintenance and repair may only be carried out by suitable qualified personnel.

The qualified personnel has to carry out the necessary work in accordance with the statutory requirements ( e.g., safety at work, environmental protection).

The function and safety of the device must not be impaired.

The qualified personnel must be adequately informed of the risk involved in their intervention.

The qualified personnel must be adequately informed of potentially hazardous substances in the device.

### 2.2 Safety precautions

Quality standards  
and safety

Products of **VACUUBRAND GMBH + CO KG** are subject to high quality tests with goals for safety and operation. Prior to delivery each product has been tested thoroughly.

Nevertheless, during operation unforeseen dangerous situations may occur which may lead to injuries or damage of property.

Therefore observe the following chapter and take the appropriate safety precautions.

### 2.2.1 Personal responsibility

#### Qualification and personal responsibility

Ensure that only authorized and skilled personnel works with the equipment. This is particularly important with regard to troubleshooting and remedy.

- ⇒ Carefully read these instructions for repair before starting work.
- ⇒ Replace wear parts regularly.
- ⇒ Never operate a defective or damaged device.
- ⇒ Personal safety has top priority!
- ⇒ Always be conscious of safety.
- ⇒ Observe the owners' directives at work, the national accident prevention regulations and occupational safety provisions.

### 2.2.2 Eliminate sources of danger

#### Use only in proper working condition

Only use the vacuum system when it is in proper working condition.

- ⇒ Carry out maintenance and repair outside the hazardous area, i.e., outside potential explosive atmospheres.

#### Safe work

The owner must determine additional protective measures to ensure safe personal protection if work has to carry out inside a hazardous area.

- ⇒ Observe the operating instructions of the owner.
- ⇒ Switch off the device prior to maintenance and repair.
- ⇒ Secure the device against restarting.

#### Dangerous voltage

Parts may carry dangerous voltages for some minutes even when the device is switched off.

To avoid fatal injuries to not carry out any work during this period.

- ⇒ Mark activities at the device appropriately, e. g. using a instruction plate. Ensure that the instruction plate is available also during temporary interruption.
- ⇒ Afterwards restore the protective equipment immediately, if you have deactivated safety functions and protective equipment due to maintenance or repair work.

- ⇒ Replace defective components by new components with the same order number or by equivalent components.
- ⇒ Prevent the entry of liquids or dust in the device.

## Health hazards

The device may be contaminated with substances dangerous to health or otherwise dangerous substances.

Decontaminate or clean the device prior to maintenance or repair, if necessary.

Observe safety and protective measures when working with hazardous substances.

Ask regularly for actual material safety data sheets.

Observe the owners' hazardous substances operating instructions.

Wear your personal protective equipment.

## 2.3 Environmental protection

### Observe environmental regulation

Observe the national and international environmental regulations for disposal of your product as well as spare parts. This applies particularly to all components that are contaminated with hazardous substances.

Dispose of chemicals, e. g., cleaning agent, according to regulations.

### Scrapping and waste disposal

### Proper disposal

As a result of increased environmental awareness and more stringent general requirements imposed by environmental legislation, a proper scrapping and disposal of no longer usable or non-repairable equipment is required.



If you wish to dispose of a VACUUBRAND electrical or electronic device, this must be done separately from unsorted municipal waste. This is indicated by the symbol of the crossed-out wheeled bin (see illustration).

VACUUBRAND offers to dispose of your device with this symbol for you.

To do this, please contact our service team.

Please note the data privacy rules and delete all data on the device.

[service@vacuubrand.com](mailto:service@vacuubrand.com)

Tel.: +49 9342 808 5660

### 3 Notes concerning repair

**IMPORTANT!** Replace defective parts in any case.

#### 3.1 Lifetime when used as intended

Part	Operating hours
Diaphragm	15000
Valve	15000
Motor capacitor	10000 - 40000
Motor bearing	40000

**WARNING****Risk of injury due to a disassembled device.**

Operating a disassembled device may lead to personal injury.

- ⇒ Never operated a opened or disassembled device.
- ⇒ Ensure that a disassembled device never starts unintentionally.

**WARNING****Damage due to an overaged motor capacitor.**

If an old motor capacitor fails, the capacitor may get hot. It may even melt or emit a flame,

- ⇒ Check every capacitor regularly by measuring its capacity and estimating its operation time. Exchange old capacitors early enough to prevent a failure.
- ⇒ The capacitors have to be replaced by a qualified electrician.

**CAUTION****Damage due to defective wear parts.**

Defective wear parts may lead to failure of the device.

- ⇒ Wear parts have to be replaced in time.

**DANGER****Danger of electric shock.**

Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.



## 3.2 Prior to maintenance and repair

### Preparation

Genuine spare  
parts

⇒ Use only genuine spare parts and accessories.

When using components of other manufacturers the safety and performance of the equipment as well as the electromagnetic compatibility of the equipment might be reduced.

Possibly the CE mark or the C/US conformity (see rating plate) becomes void if not using genuine spare parts.

⇒ Check that the required tools and parts are available and of the correct type before you start your work.

⇒ Check the operating sequence mentally using exploded view drawings, spare parts lists and circuit diagram on feasibility, safety requirements and consequences on safety and function of the equipment.

⇒ Vent the device.

⇒ Allow the device to cool down.

⇒ Separate the device from mains prior to maintenance or repair. Switch off the device and unplug.

⇒ Allow the capacitors to discharge.

⇒ Ensure ESD protection measures at the workplace.

Separate from  
mains



## 3.3 After maintenance or repair

### Testing

Testing

Check operability and safety after maintenance and repair.

⇒ Check the safety of the device according to IEC 61010 and national regulations.

### BVC control / G and BVC professional / G

BVC control / G  
BVC professional  
/ G

⇒ Check the ultimate vacuum of the pump after maintenance and repair.



The pump achieves its ultimate vacuum if switching off at an atmospheric pressure > 1000 mbar absolute, a maximum underpressure of 850 mbar (8 LEDs glow) and a leak-free apparatus.

### **BVC professional / G**



⇒ Adjust the liquid level sensor if necessary.

Adjusting the liquid level sensor is described in the instructions for use of the device.

### **3.4 Replacing diaphragms and valves**



Inspection and maintenance of the pump heads and **replacement of diaphragms and valves** is described in the instructions for use of the device.

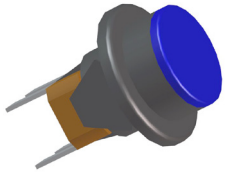
Please ask for replacement in case of missing instructions for use. Alternatively, you can download instructions for use on our web page: [www.vacuubrand.com](http://www.vacuubrand.com).



In case of problems return the device to the factory for inspection or repair if necessary.

⇒ Observe section „Service“.

## 4 Replacing the main switch



### Spare part

Main switch (20635239)



### Tool

Torx screw driver TX20

Torx torque screw driver TX20



### DANGER

#### **Danger of electric shock.**

A defective main switch will result in an electrical shock.

- ⇒ Replace a defective main switch immediately.
- ⇒ Replacement of the main switch must be carried out by a qualified electrician.



### DANGER

#### **Danger of electric shock.**

Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.



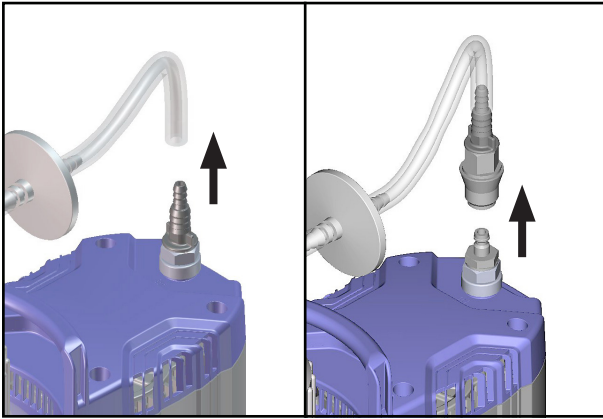
### CAUTION

#### **Electrostatic discharge (ESD).**

Electronic components can be damaged or destroyed if ESD protection measures are not observed.

- ⇒ Ensure ESD protection measures at the workplace.

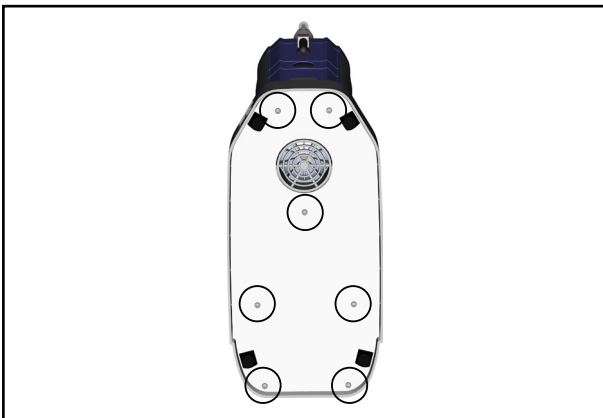




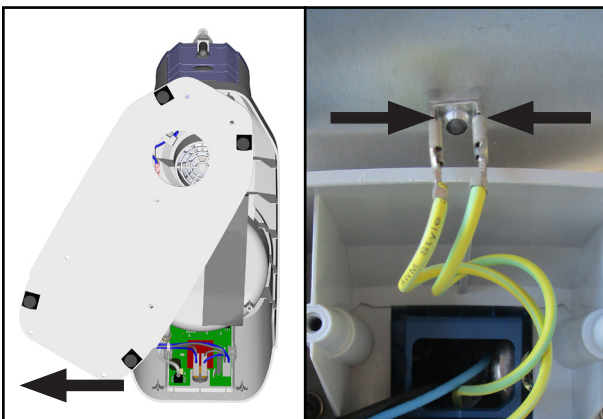
1. Depending on BVC version, remove connection tubing at the hose nozzle or detach quick coupling.



2. Remove bottle from support.



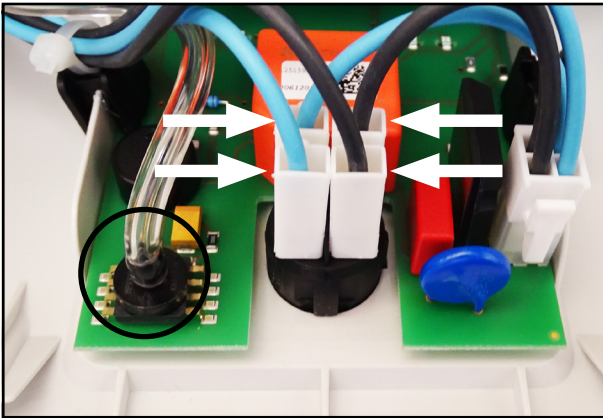
3. Lay down the BVC as shown.
4. Unscrew screws at the base plate.



5. Put the base plate to one side.  
⇒ It is not necessary to disconnect the earth cables.



**IMPORTANT!** Ensure ESD protection measures at the workplace.



⇒ Note: The illustration may show a circuit board in a different version to the one contained in your device.

⇒ The pressure sensor (see mark) is sensitive to electrostatic discharge.

⇒ Do not touch the pressure sensor.

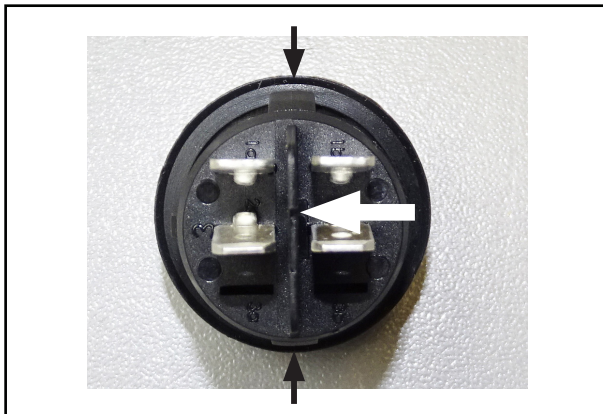
⇒ Observe ESD protection measures!

6. Mark the cables if necessary.



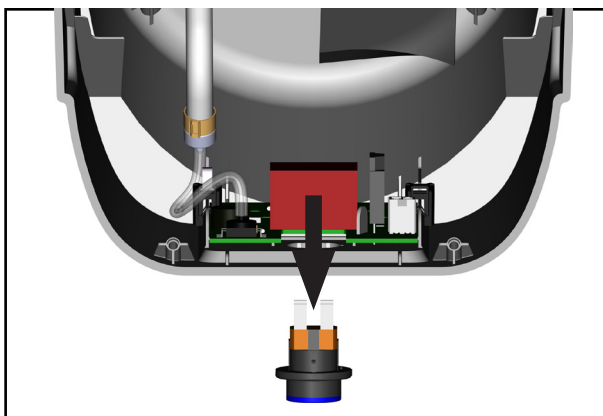
7. If necessary, note the position of the cables on the switch (1a, 1b, 2a, 2b)

8. Disconnect the cables from the switch.



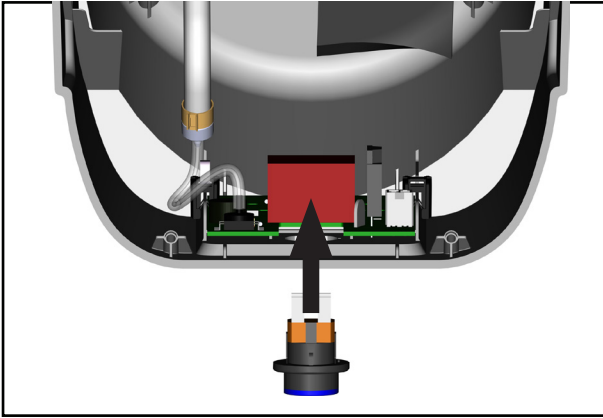
9. Press the tabs at the main switch together and press the bottom of the main switch.

⇒ The illustration shows the tabs on the switch.

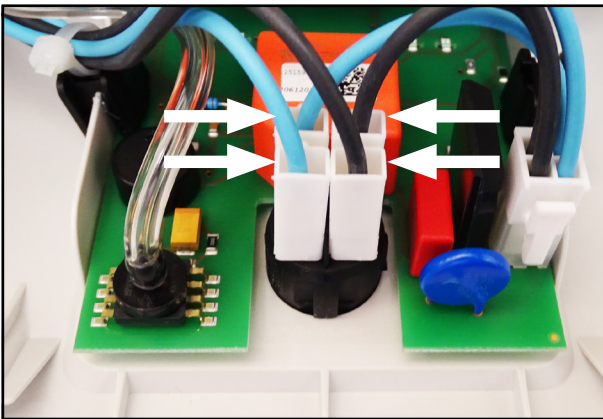


10. Remove the main switch from housing.

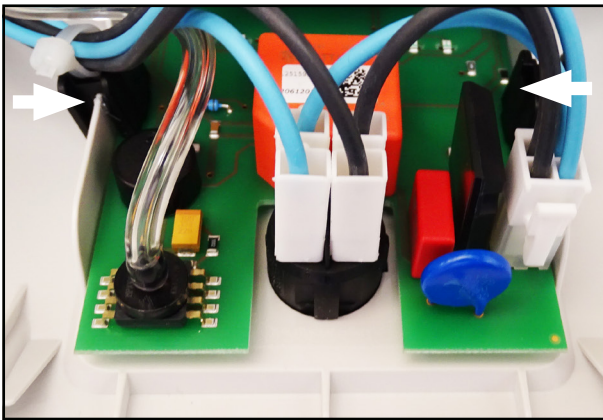




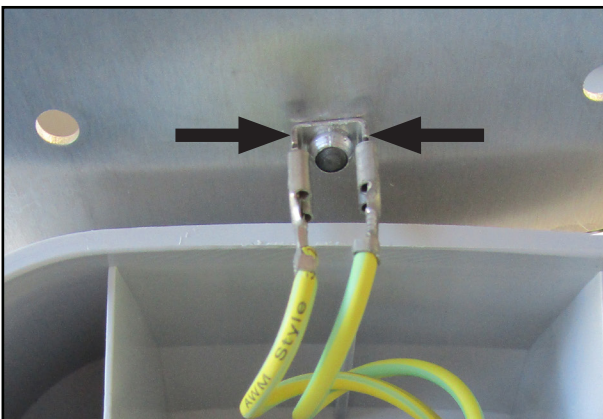
11. Take care of the lugs at the main switch and the recesses provided in the housing when assembling the main switch.
12. Insert the new main switch in the housing.



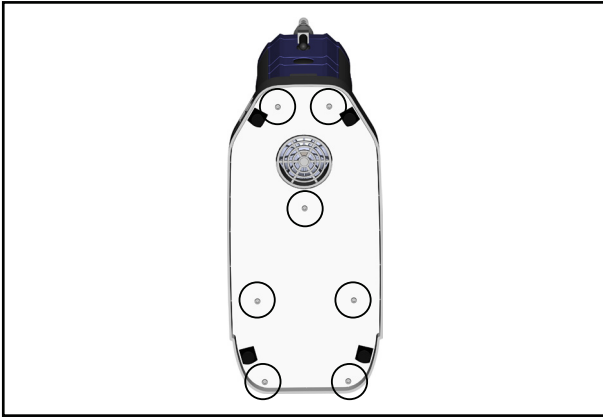
13. Plug the cables on the main switch correctly.



14. Check the firm seat of the circuit board.
15. Press the mounting clips if necessary.



16. Check the firm seat of the earth cables at the base plate.



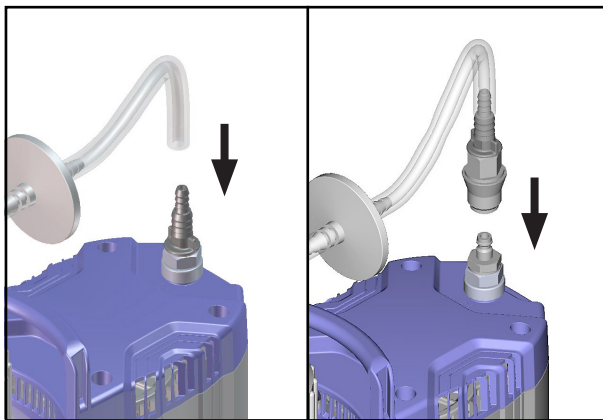
17. Position the base plate.

18. Screw the base plate, max. torque 1.5 Nm.



19. Position the BVC on the feet.

20. Position bottle in the support.



21. Depending on BVC version, position tubing to hose nozzle or quick coupling.

### IMPORTANT!

- ⇒ Check operability and safety after repair.
- ⇒ Check the safety of the device according to IEC 61010 and national regulations.



### DANGER

#### Danger of electric shock.

Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.

## 5 Replacing the motor capacitor

### Spare part capacitor on request

- Please be sure to include the serial number of the device with your request.



### Tool



Torx screw driver TX20

Torx torque screw driver TX20

Open-ended wrench SW 13, 17, 19



### DANGER

#### **Danger of electric shock.**

Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.



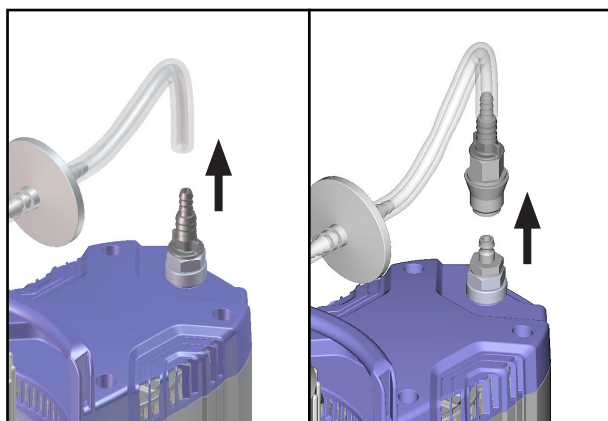
### WARNING

#### **Damage due to an overaged motor capacitor.**

If an old motor capacitor fails, the capacitor may get hot. It may even melt or emit a flame.

- ⇒ Check every capacitor regularly by measuring its capacity and estimating its operation time. Exchange old capacitors early enough to prevent a failure.
- ⇒ The capacitors have to be replaced by a qualified electrician.

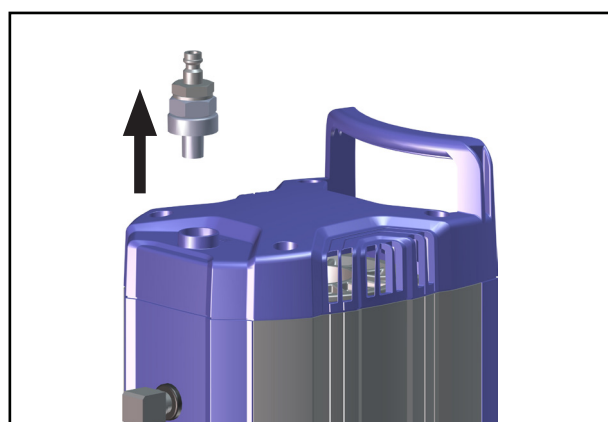




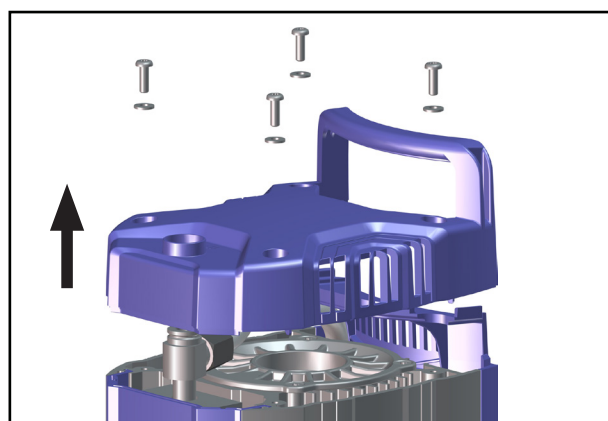
1. Depending on BVC version, remove connection tubing at the hose nozzle or detach quick coupling.



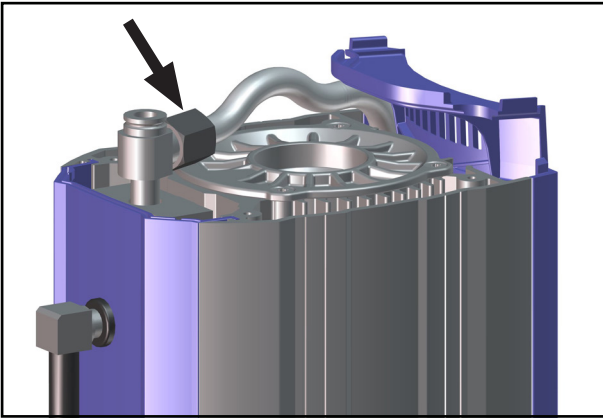
2. Remove bottle from support.



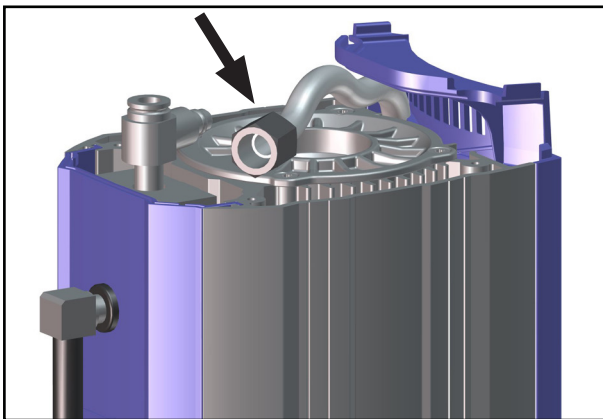
3. Depending on BVC version, unscrew the hose nozzle or the coupling.



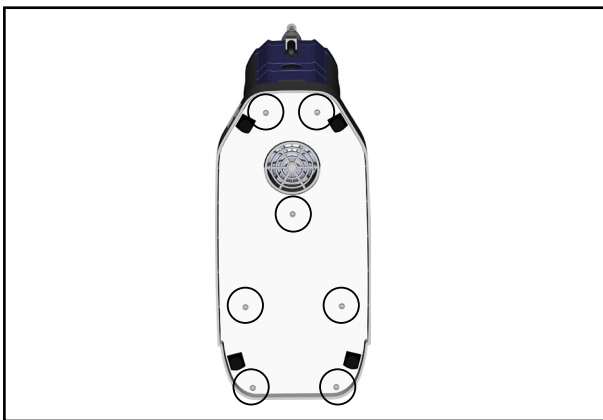
4. Unscrew the cover.  
⇒ Pay attention to washers.



5. Loosen the union nut.

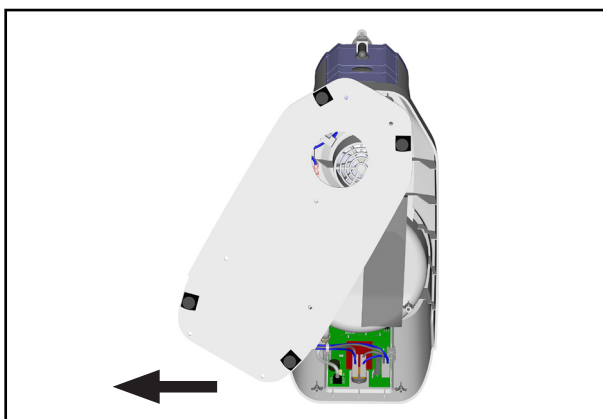


6. Turn away hose from hose connector.

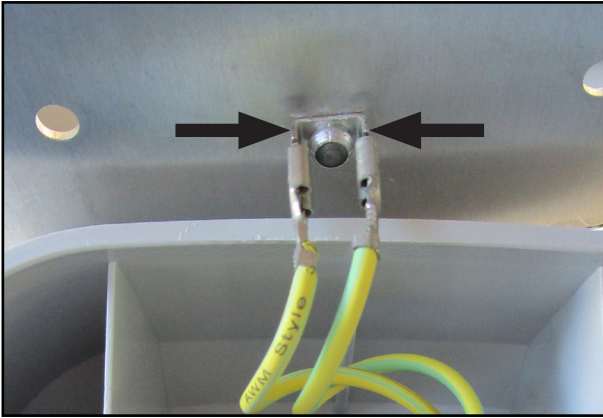


7. Lay down the BVC as shown.

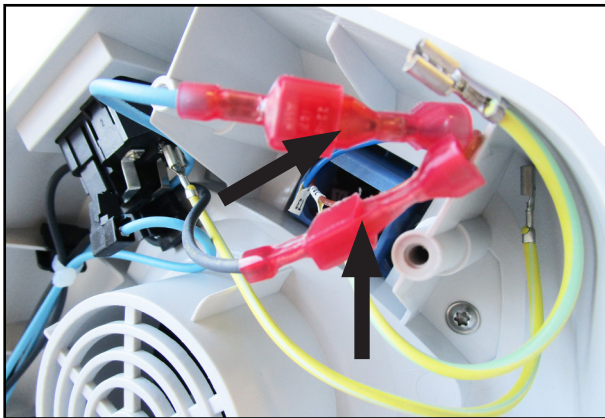
8. Unscrew screws at the base plate.



9. Put the base plate to one side.



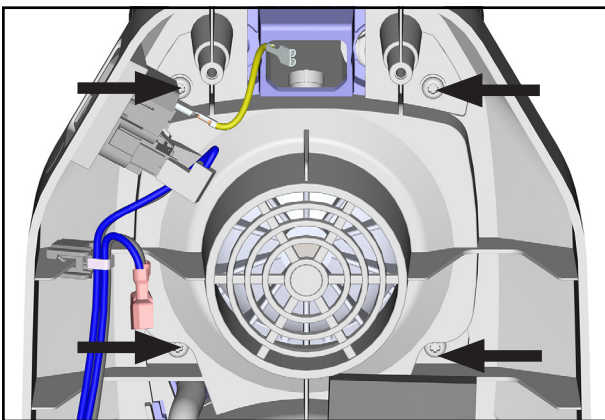
10. Pull both earth cables from base plate.



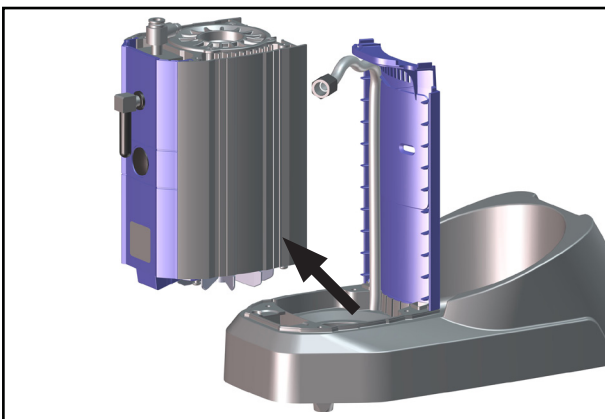
⇒ Electronic components are sensitive to electrostatic discharge (ESD).

⇒ Observe ESD protective measures.

11. Disconnect the two plug connections.

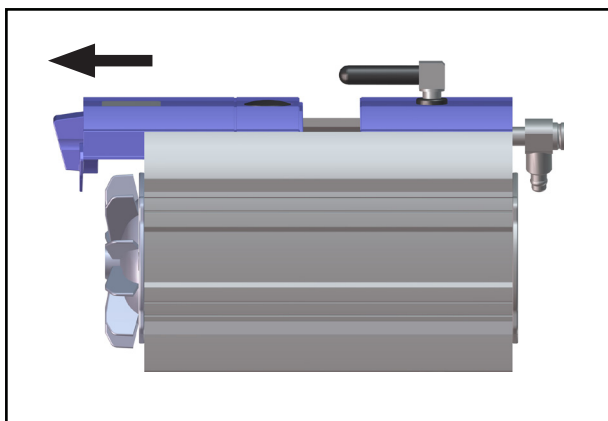


12. Unscrew the four screws fixing the motor.

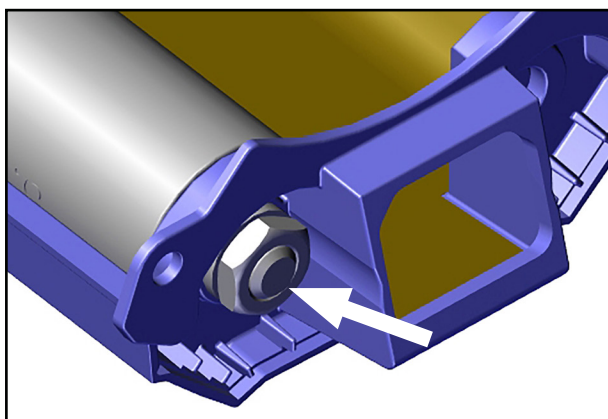


13. Hold the pump and position the BVC on the feet.

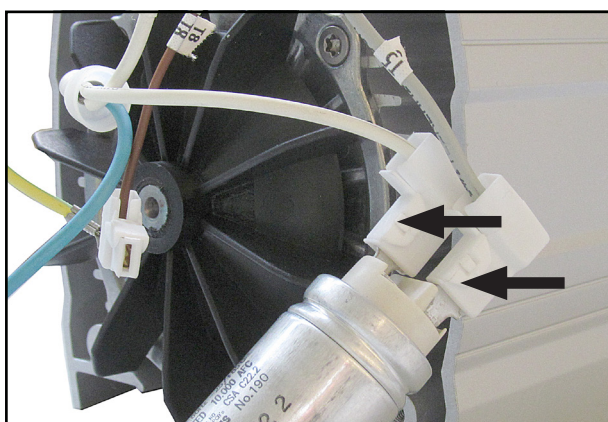
14. Lift the pump from holder.



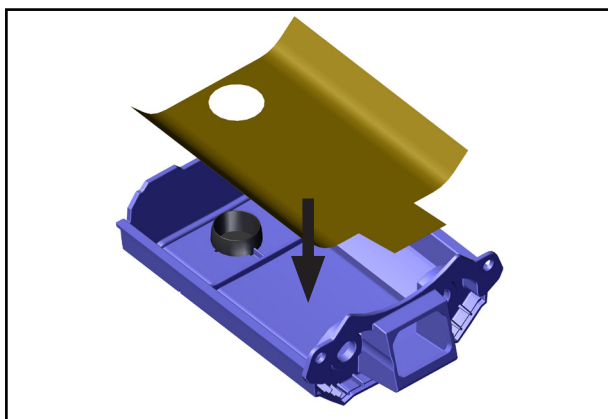
15. Place the pump as shown.
16. Remove the blind.



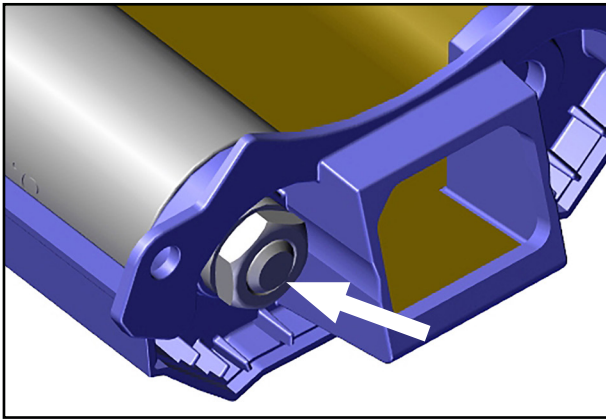
17. Unscrew the motor capacitor.



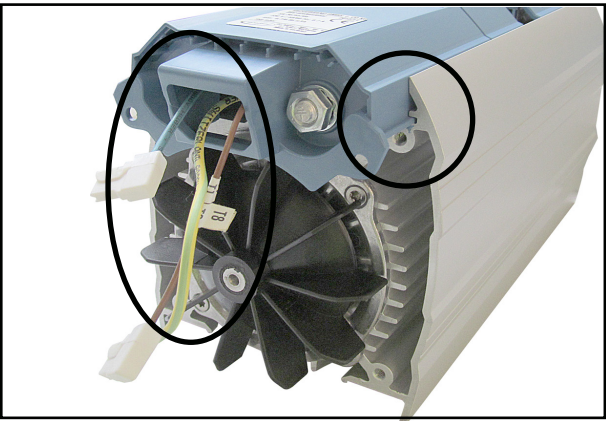
18. Pull both cables at the motor capacitor.
19. Attach both cables to the new motor capacitor.



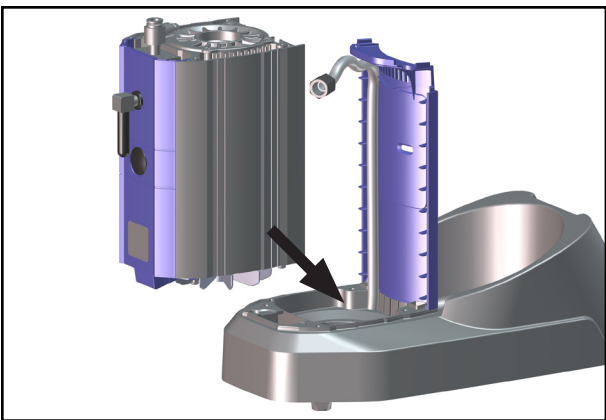
- ⇒ Depending on the year of manufacture of the BVC, there may be an insulating foil in the blind.
- ⇒ If an insulating foil is already present, ensure that it is positioned correctly in the cover.
- ⇒ If you have received the insulating foil with the new capacitor, place the insulating foil correctly in the cover.



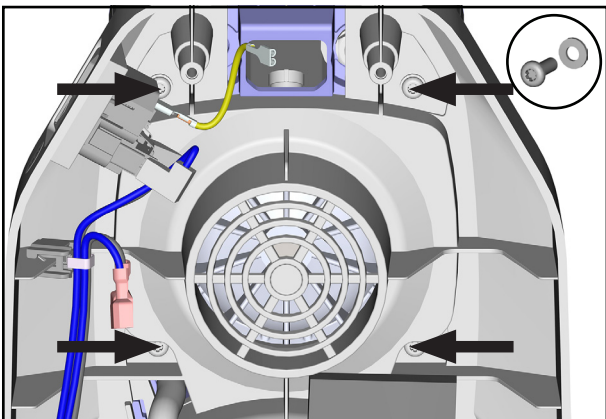
20. Screw the motor capacitor into the blind using the lock washer and the nut.



21. Insert the cable through the opening in the blind.  
22. Pay attention to correct position of the blind in the housing.  
23. Slide the blind on the pump.

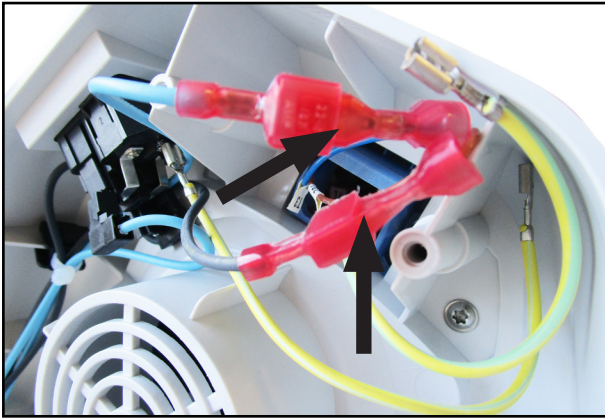


24. Pay attention to cables. Do not squeeze cables.  
25. Insert the cables through the holder.  
26. Position pump in holder.



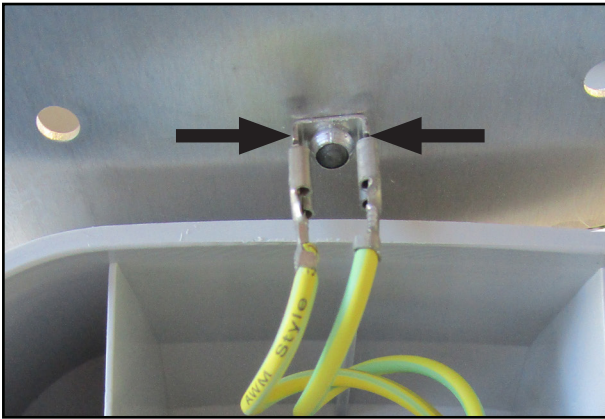
27. Hold the pump and lay down the BVC as shown.  
28. Ensure the correct position of the tension washers under the screws.  
29. Tighten the pump, max. torque: 1.5 Nm.





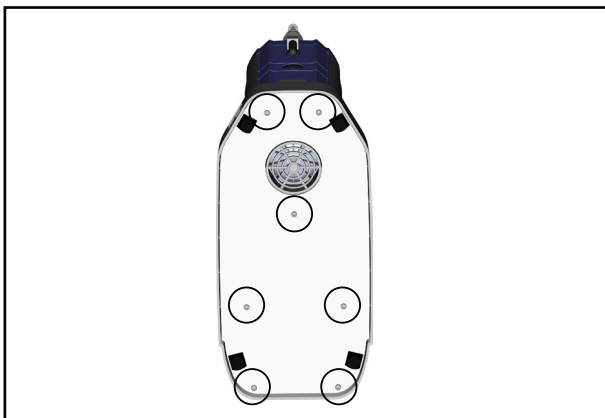
30. Connect the cables.

31. Twist the earth cables three times.



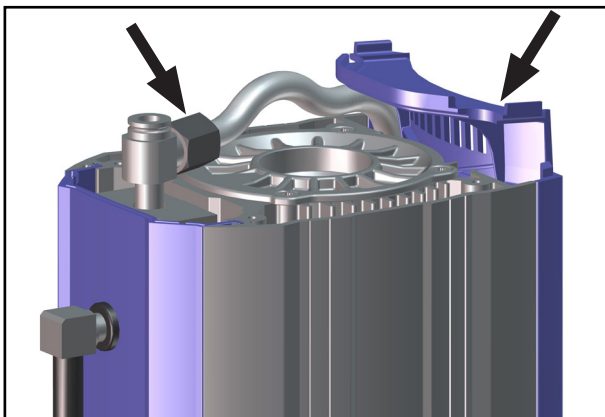
32. Plug the earth cables to the base plate.

33. Position the base plate.



34. Screw the base plate, max. torque 1.5 Nm.

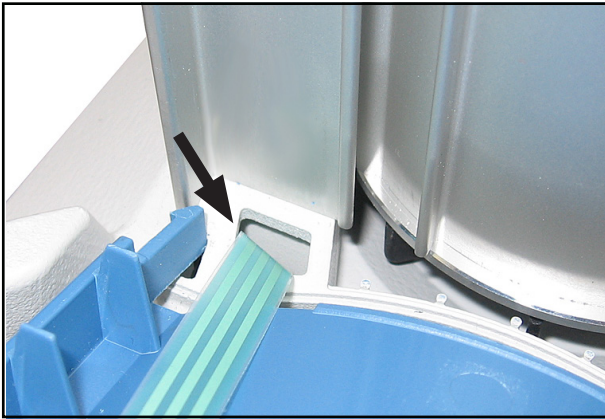
35. Position the BVC on the feet.



36. Connect hose to hose connector.

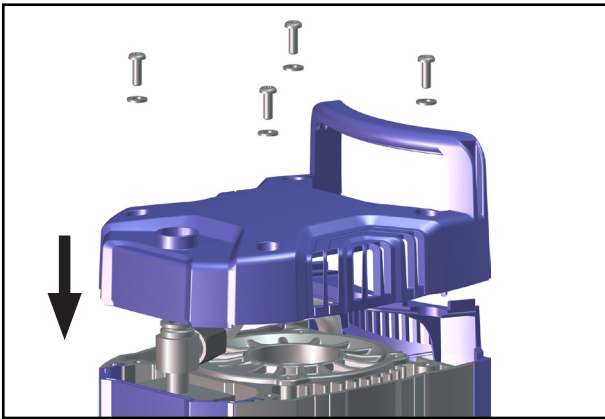
37. Screw the union nut.

38. Position blind in holder if necessary.

**Only BVC professional / G:**

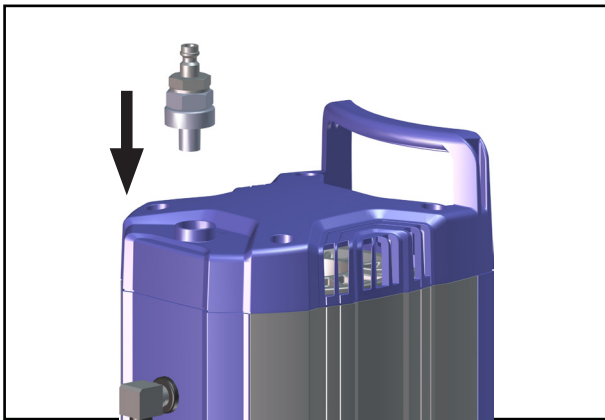
During repair it may happen that the blind with liquid level sensor foil falls out from the holder.

⇒ Do not squeeze the foil cable when assembling the blind.



39. Ensure that the tension washers are positioned correctly under the screws.

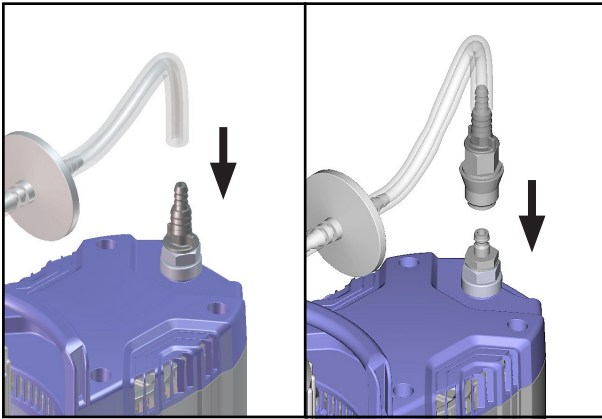
40. Screw the blind tight, max. torque: 1.5 Nm.



41. Depending on BVC version, screw coupling or hose nozzle.



42. Position bottle in the support.



43. Depending on BVC version, position tubing to hose nozzle or quick coupling.

## IMPORTANT!

- ⇒ Check operability and safety after repair.
- ⇒ Check the safety of the device according to IEC 61010 and national regulations.



## DANGER

### Danger of electric shock.

Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.



### Only BVC professional / BVC professional G

- ⇒ Adjust the liquid level sensor after repair.
- ⇒ The adjustment of the liquid level sensor is described in the instructions for use of the BVC.



## 6 Replacing the circuit board



### Spare part

Circuit board BVC control / professional (20612302)



### Tool

Torx screw driver TX20

Torx torque screwdriver TX20

Screwdriver with flat blade 2.5 mm

Tweezers



### DANGER

#### **Danger of electric shock.**

Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.



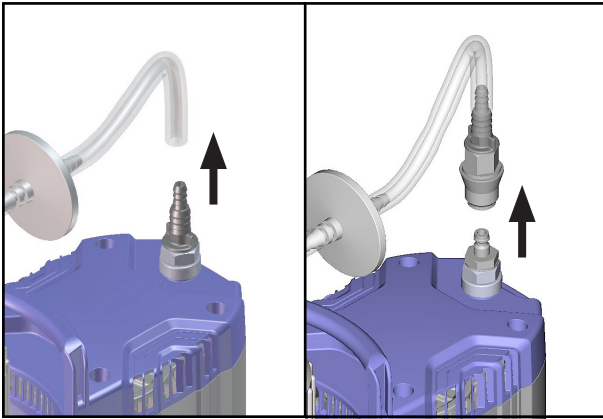
### CAUTION

#### **Electrostatic discharge (ESD).**

Electronic components can be damaged or destroyed if ESD protection measures are not observed.

- ⇒ Ensure ESD protection measures at the workplace.

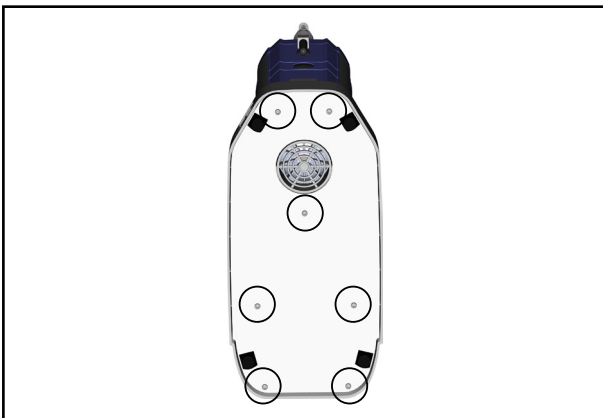




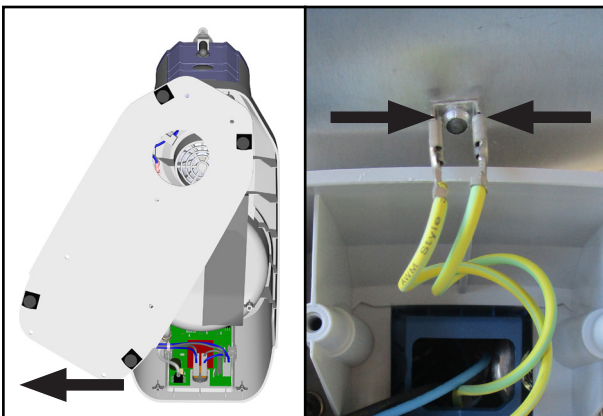
1. Depending on BVC version, remove connection tubing at the hose nozzle or detach quick coupling.



2. Remove bottle from support.



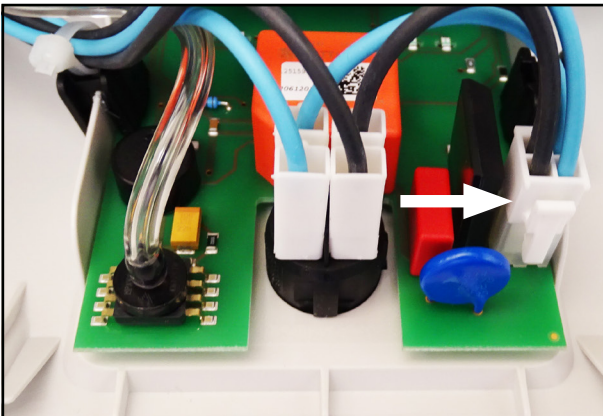
3. Lay down the BVC as shown.
4. Unscrew screws at the base plate.



5. Put the base plate to one side.  
⇒ It is not necessary to disconnect the earth cables.

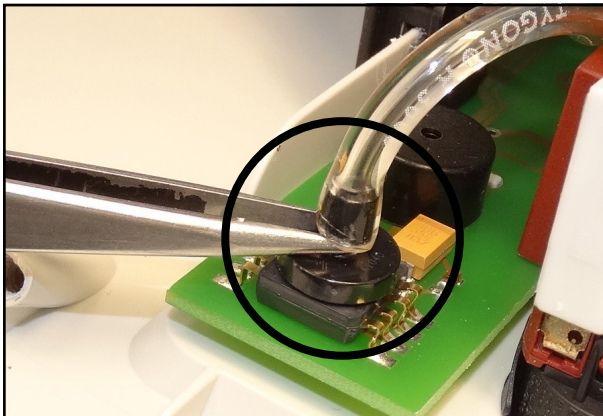


**IMPORTANT!** Ensure ESD protection measures at the workplace.



6. Disconnect the plug with the cables from the circuit board.

⇒ Note: The illustration may show a circuit board in a different version to the one contained in your device.

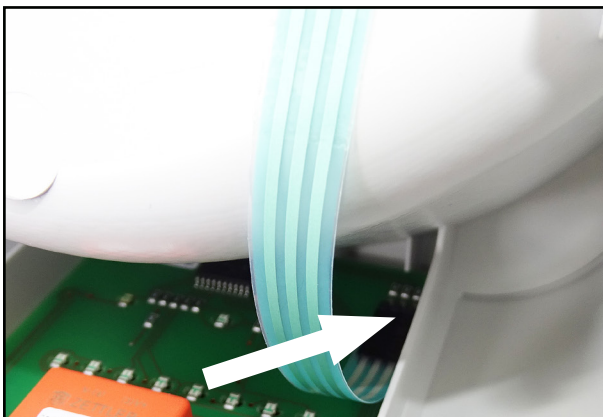


7. Remove the hose from the pressure sensor using tweezers.

⇒ The pressure sensor (see marking) is ESD-sensitive.

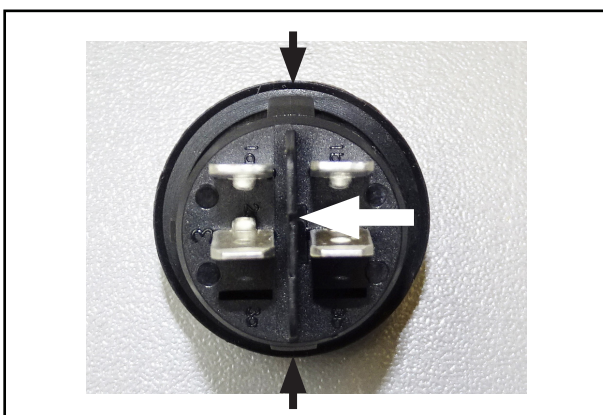
⇒ Do not touch the pressure sensor.

⇒ Observe ESD protective measures!



**Only BVC professional / G:**

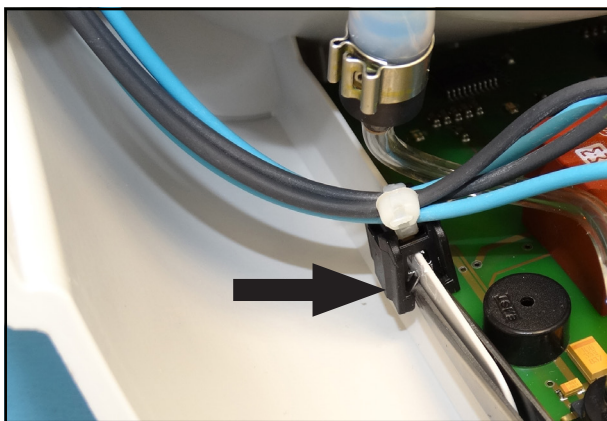
8. Unplug the ribbon cable from the circuit board.



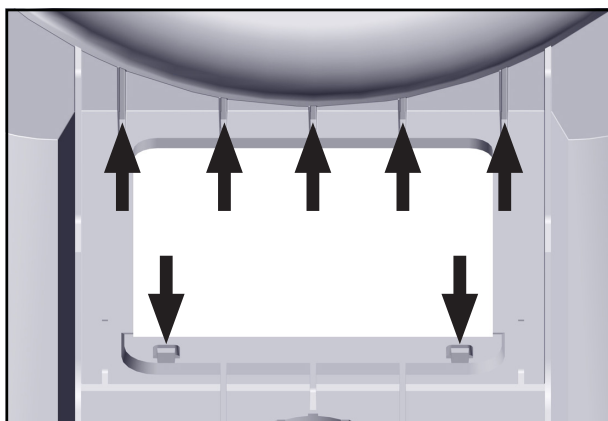
9. Press the tabs on the switch together and push the switch out of the housing.

⇒ The illustration shows the tabs on the switch.

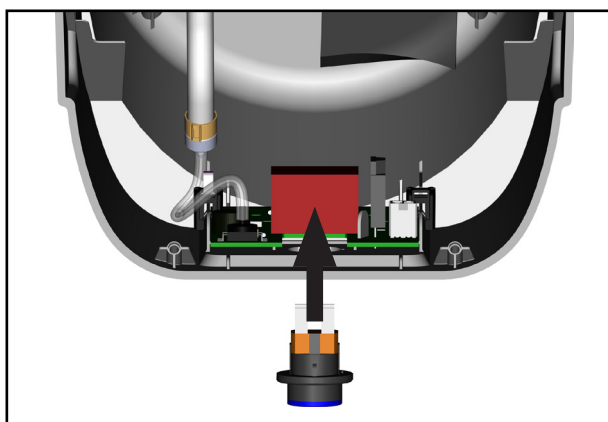
⇒ **The cables on the switch do not need to be disconnected.**



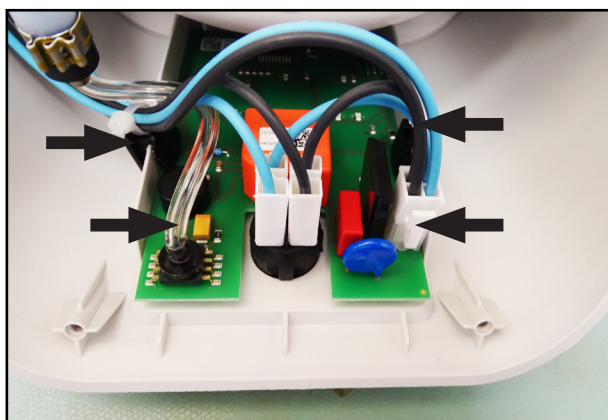
10. Remove both mounting clips fixing the circuit board using tweezers or a small screw driver.
11. Remove defective circuit board.



12. Insert the new circuit board in the grooves and stud bolts.

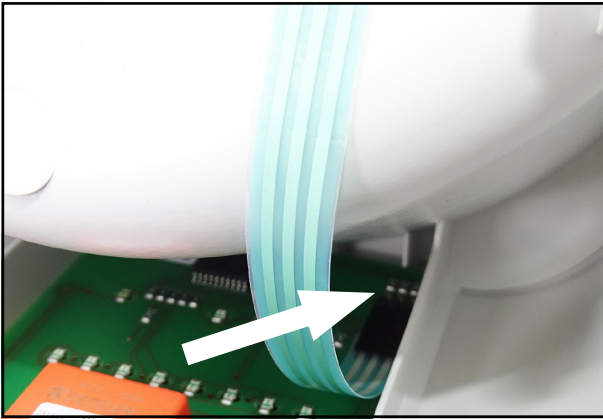


13. Take care of the lugs at the main switch and the recesses provided in the housing when assembling the main switch.
14. Insert the main switch in the housing.

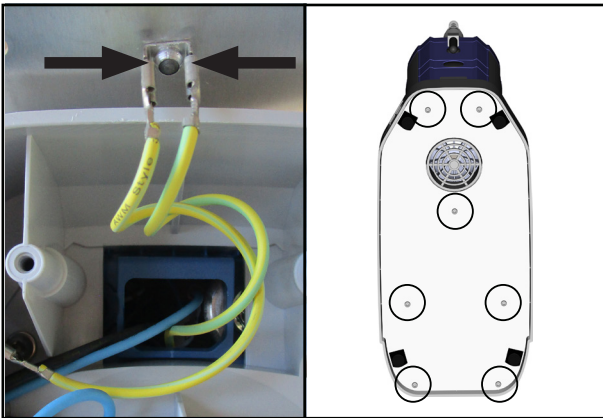


15. Assemble both mounting clips.
16. Plug the hose to the pressure sensor.
17. Plug the cables at the circuit board.
18. Check the firm seat of the circuit board.



**Only BVC professional / G:**

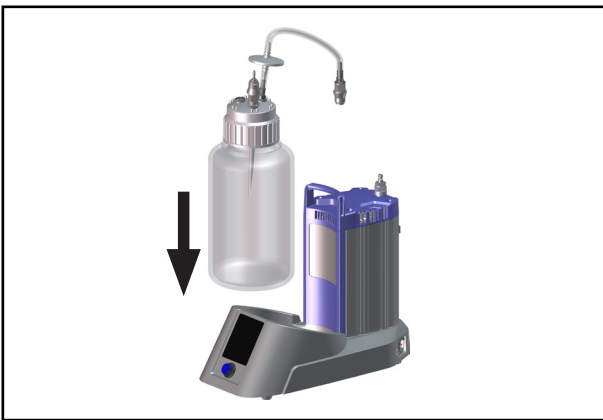
19. Plug the ribbon cable to the electronic board.



20. Check the firm seat of the earth cables at the base plate.

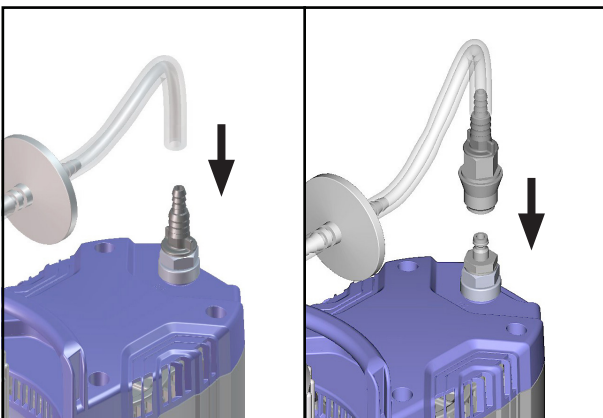
21. Position the base plate.

22. Screw the base plate, max. torque 1.5 Nm.



23. Position the BVC on the feet.

24. Place the bottle in the holder.



25. Depending on BVC version, position tubing to hose nozzle or quick coupling.

**IMPORTANT!**

- ⇒ Check operability and safety after repair.
- ⇒ Check the safety of the device according to IEC 61010 and national regulations.

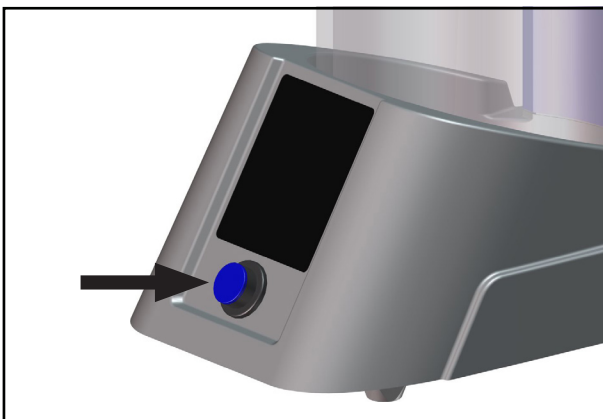


## DANGER

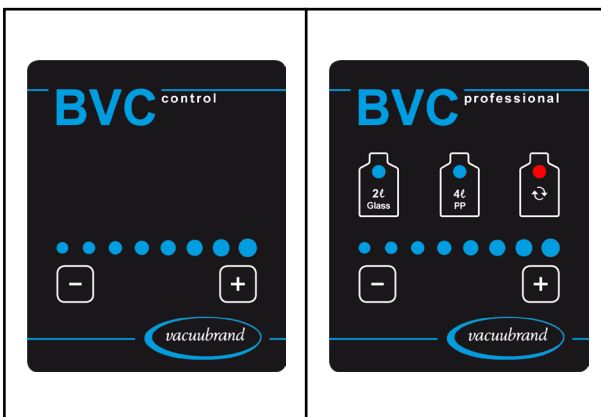
### Danger of electric shock.

Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.



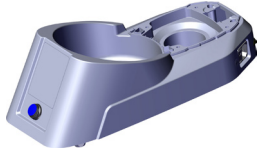
- 26. Set up the BVC at the workplace.
- 27. Connect the BVC to mains.
- 28. Switch on the BVC.
- 29. Do not touch the touch panel.
- ⇒ The BVC automatically carries out an adjustment routine.



- ⇒ All LEDs of the touch panel are lit.
- 30. Wait approximately 1 minute until the pump starts.
- ⇒ The adjustment routine is complete.
- 31. Adjust suction power if necessary by using key “+” or “-”.

## 7 Replacing the housing

### Spare part



Conversion kit housing BVC control (22618905)  
Conversion kit housing BVC professional (22618904)

### Tool



Torx screw driver TX20  
Torx torque screw driver TX20  
Open-ended wrench size 19



#### **DANGER**

##### **Danger of electric shock.**

A defective main switch will result in an electrical shock.  
⇒ Replace a defective main switch immediately.  
⇒ Replacement of the main switch must be carried out by a qualified electrician.



#### **DANGER**

##### **Danger of electric shock.**

Improperly executed repairs will result in an electrical shock.  
⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.  
⇒ Check the protective conductor resistance.  
⇒ Check the insulation resistance.  
⇒ Carry out a high voltage test.  
⇒ Check the leakage current.

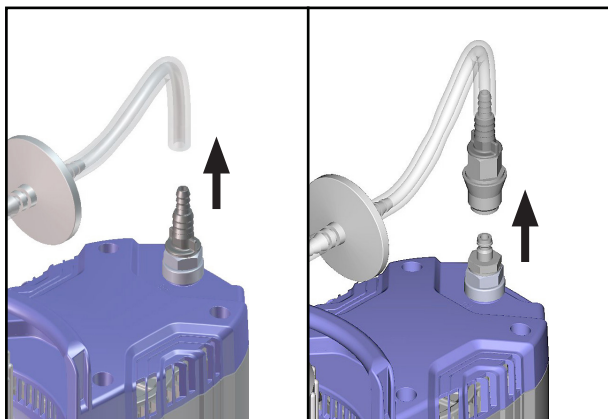


#### **CAUTION**

##### **Electrostatic discharge (ESD).**

Electronic components can be damaged or destroyed if ESD protection measures are not observed.  
⇒ Ensure ESD protection measures at the workplace.

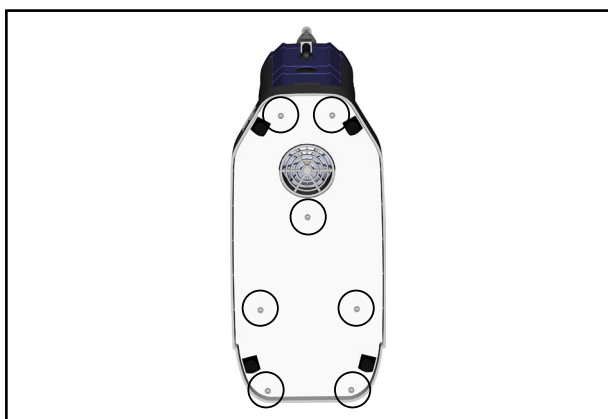




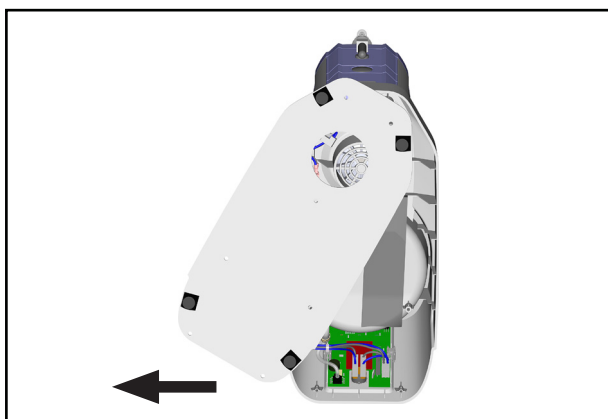
1. Depending on BVC version, remove connection tubing at the hose nozzle or detach quick coupling.



2. Remove bottle from support.



3. Lay down the BVC as shown.
4. Unscrew screws at the base plate.

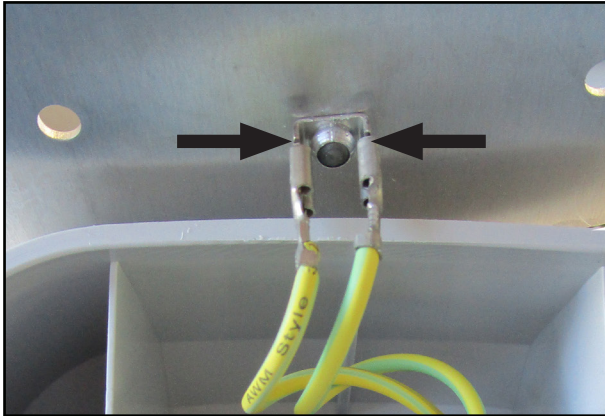


5. Put the base plate to the side.

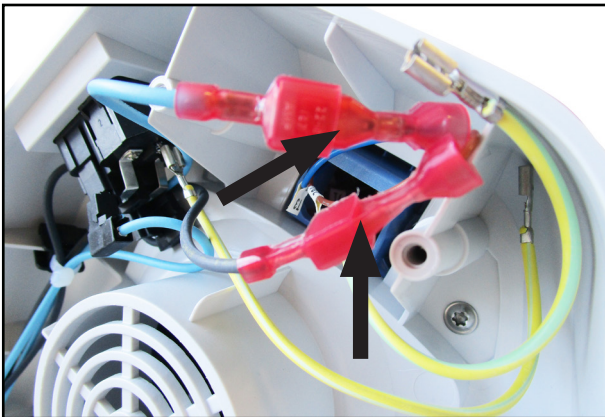


**IMPORTANT!**

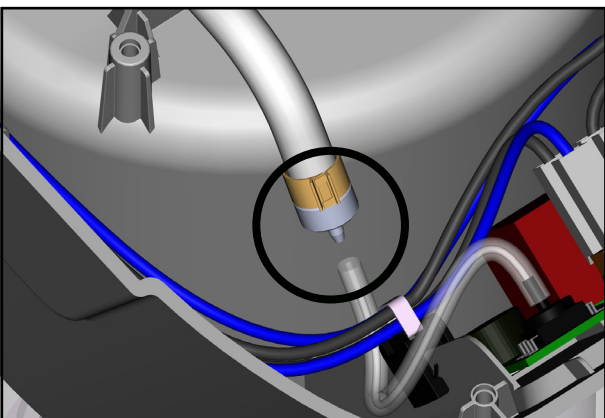
Ensure ESD protection measures at the workplace.



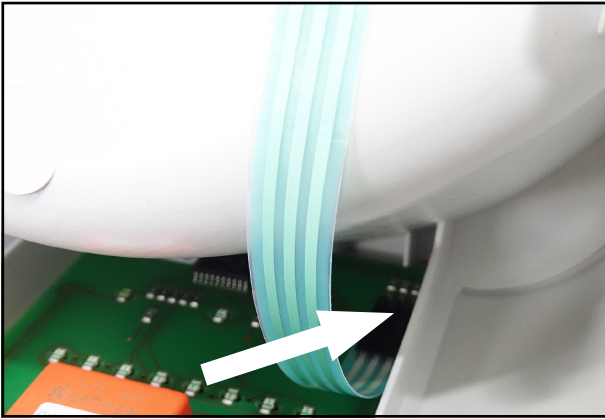
6. Pull both earth cables from base plate.



7. Disconnect the two plug connections.



8. Remove hose carefully from adapter.



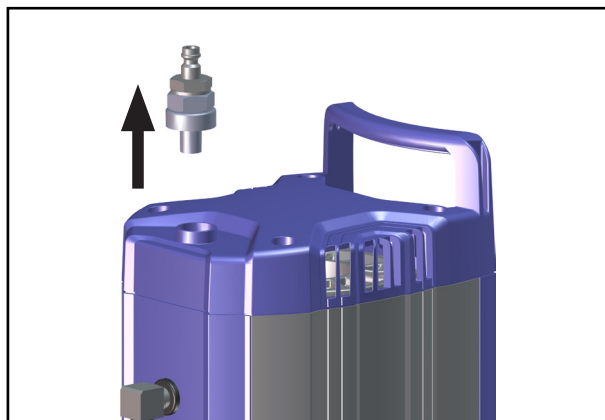
**Only BVC professional / G:**

9. Unplug the foil cable from the circuit board.



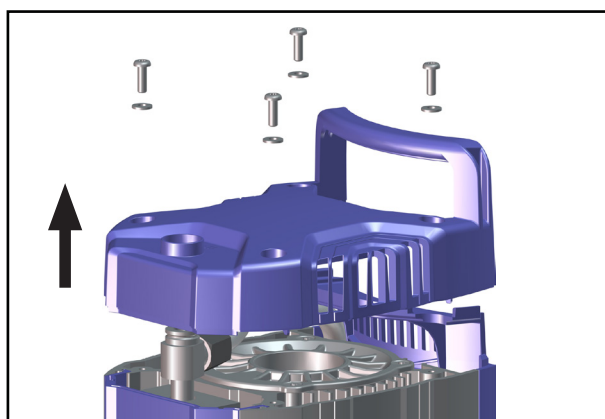
**Only BVC professional / G:**

10. Remove the foil cable carefully from the housing base.



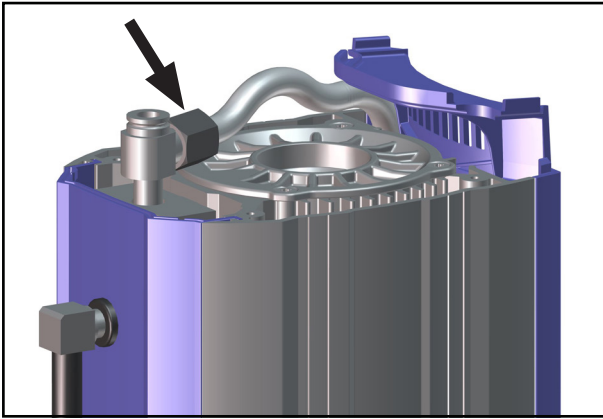
11. Position the BVC on the feet.

12. Depending on BVC version, unscrew the hose nozzle or the coupling.

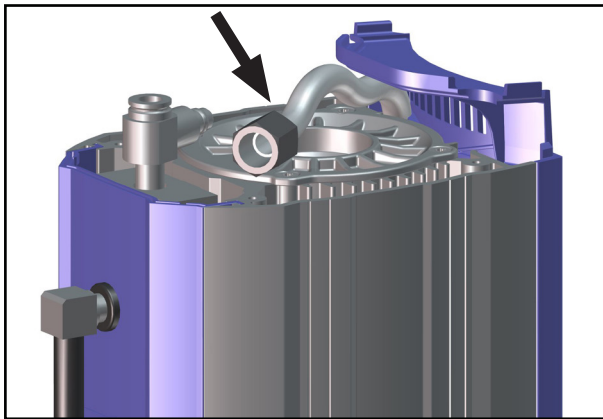


13. Unscrew the cover.

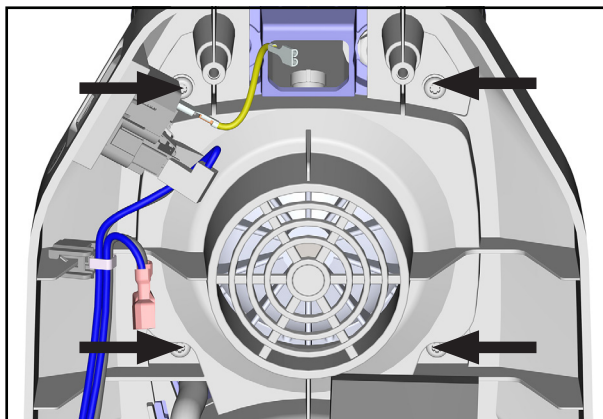
- ⇒ Pay attention to washers / clamping discs.



14. Loosen the union nut.

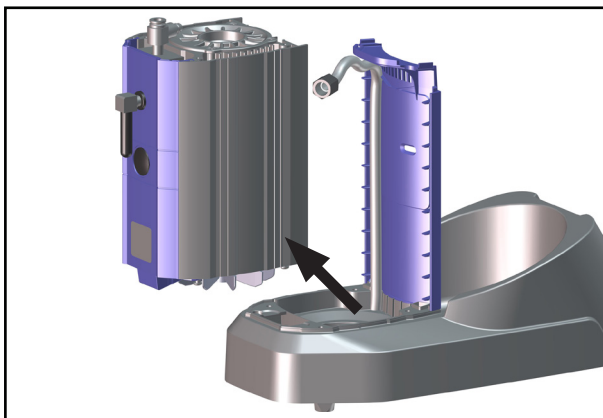


15. Turn away hose from hose connector.



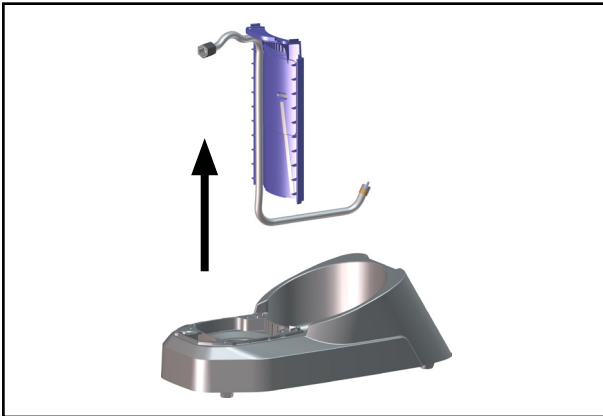
16. Lay down the BVC.

17. Unscrew the four screws fixing the motor.



18. Hold the pump and position the BVC on the feet.

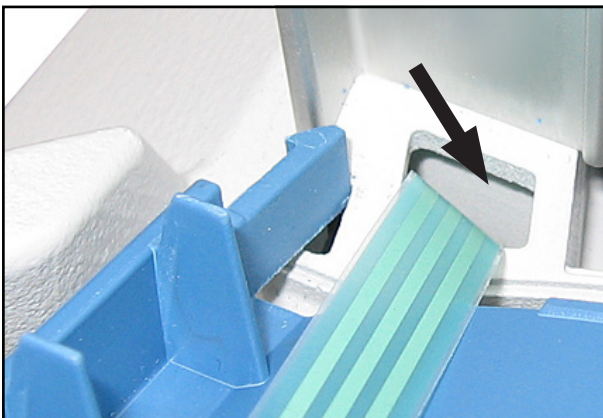
19. Lift the pump from holder.



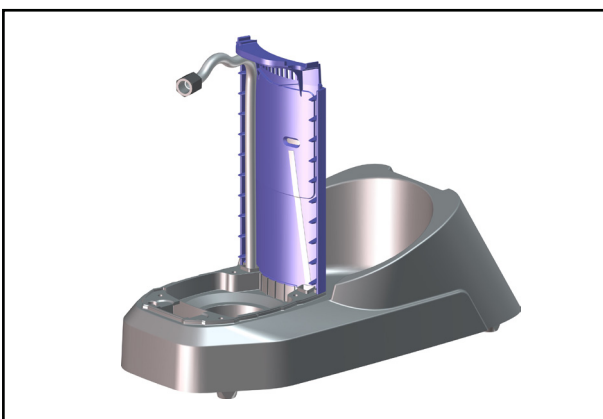
20. Remove the blind and the hose from housing.  
⇒ Do not damage the foil cable.



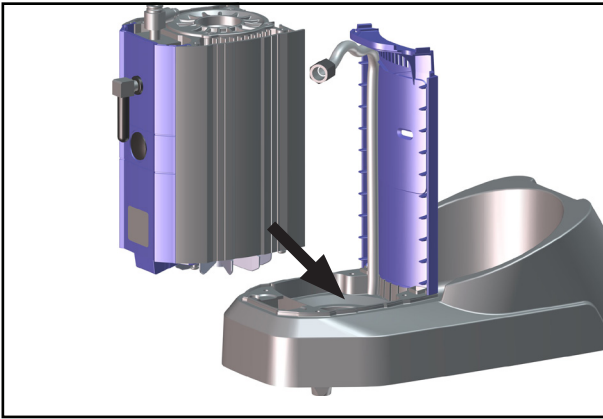
21. Position the hose in the **new housing**.



- Only BVC professional / G:**  
22. Insert the foil cable through the holder.



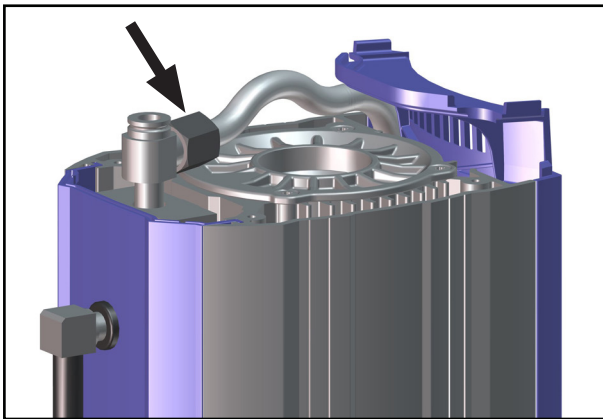
23. Position the blind in the housing.  
⇒ Do not squeeze the foil cable when assembling the blind.



⇒ Pay attention to cables. Do not squeeze cables.

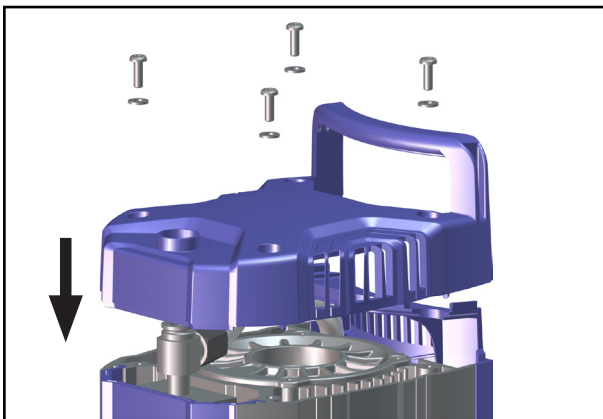
24. Insert the cables through the holder.

25. Position pump in holder.



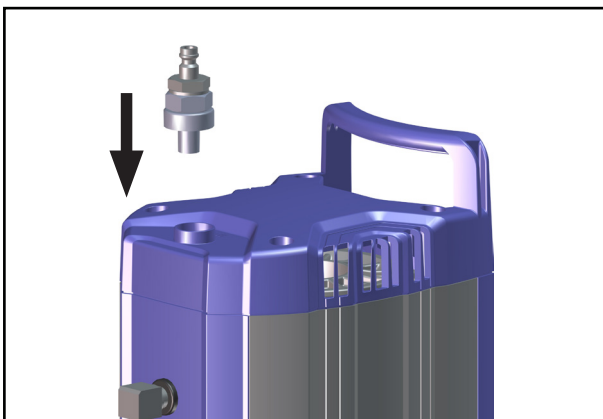
26. Connect hose to hose connector.

27. Screw the union nut.



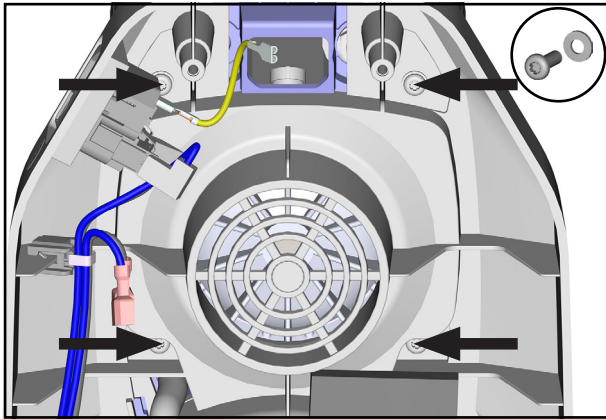
28. Ensure that the tension washers are positioned correctly under the screws.

29. Screw the blind tight, max. torque: 1.5 Nm.

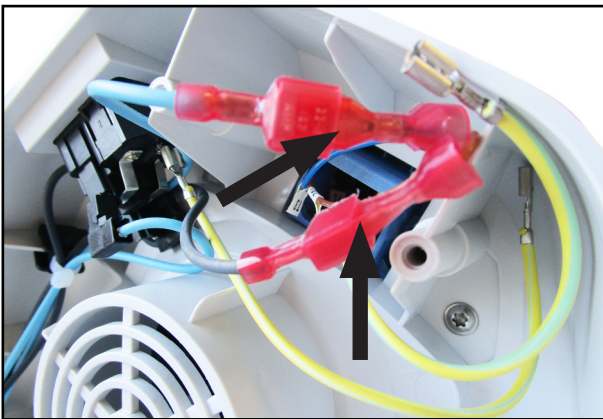


30. Depending on BVC version, screw coupling or hose nozzle.

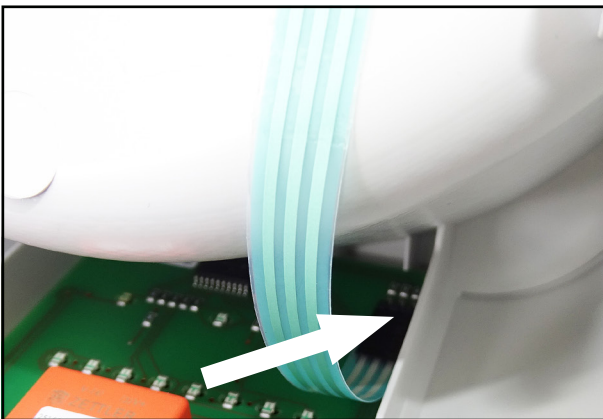




31. Hold the pump and lay down the BVC as shown.
32. Ensure the correct position of the tension washers under the screws.
33. Tighten the pump, max. torque: 1.5 Nm.



34. Connect the cables.



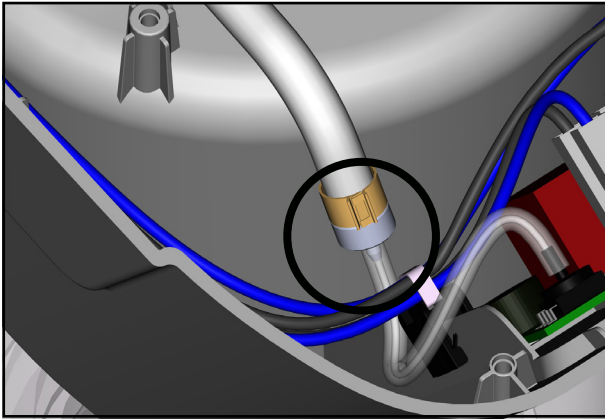
**Only BVC professional / G:**

35. Plug the foil cable to the electronic board.

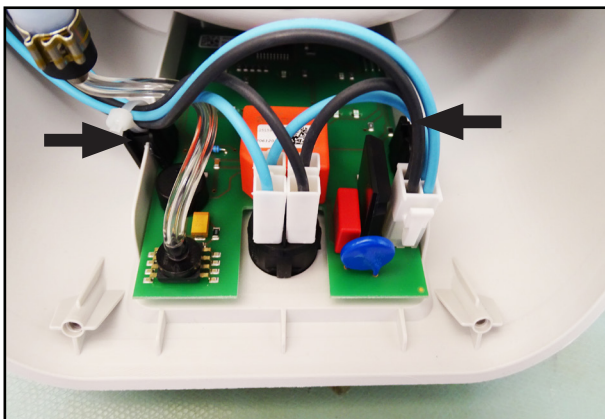


**Only BVC professional / G:**

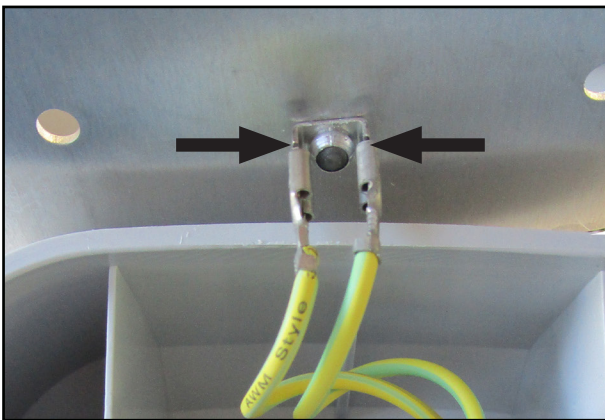
36. Remove the protective foil from the housing base and stick the foil cable at the housing base.



37. Connect the hose to the adapter.

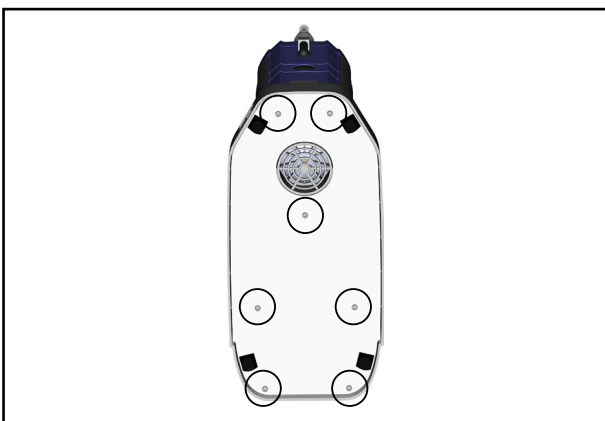


38. Check the firm seat of the circuit board.



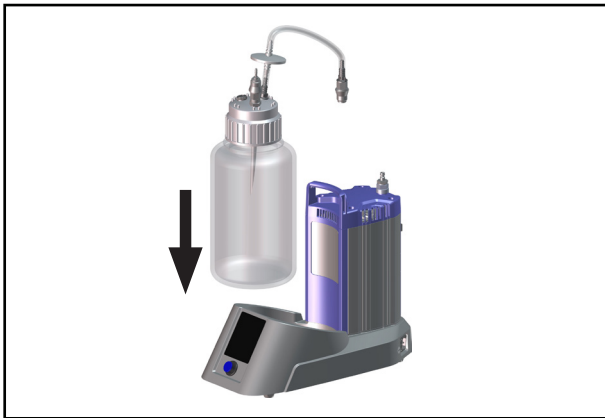
39. Twist the earth cables three times.

40. Plug the earth cables to the base plate.

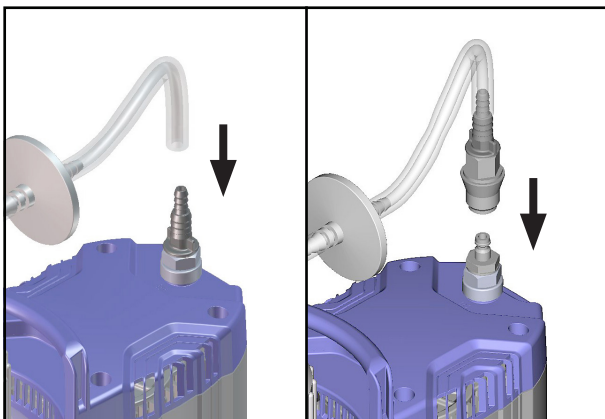


41. Position the base plate.

42. Screw the base plate, max. torque 1.5 Nm.



- 43. Position the BVC on the feet.
- 44. Position bottle in the support.



- 45. Depending on BVC version, position tubing to hose nozzle or quick coupling.

## IMPORTANT!

- ⇒ Check operability and safety after repair.
- ⇒ Check the safety of the device according to IEC 61010 and national regulations.

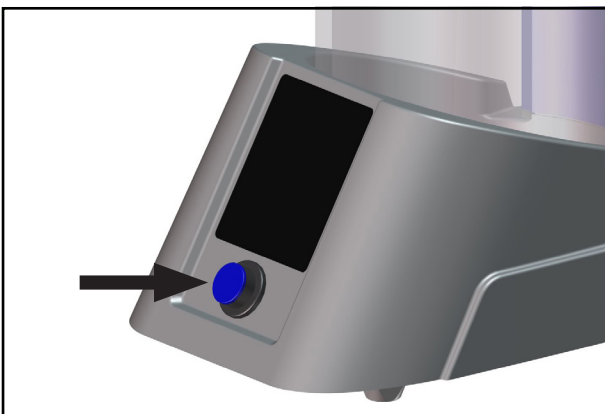


## DANGER

### Danger of electric shock.

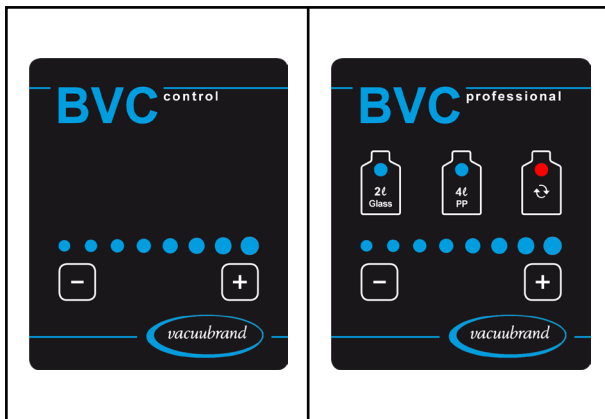
Improperly executed repairs will result in an electrical shock.

- ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.
- ⇒ Check the protective conductor resistance.
- ⇒ Check the insulation resistance.
- ⇒ Carry out a high voltage test.
- ⇒ Check the leakage current.



- 46. Set up the BVC at the workplace.
- 47. Connect the BVC to mains.
- 48. Switch on the BVC.
- 49. Do not touch the touch panel.
- ⇒ The BVC automatically carries out an adjustment routine.





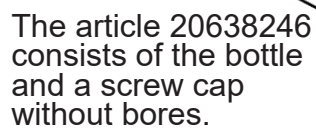
50. All LEDs of the touch panel are lit.

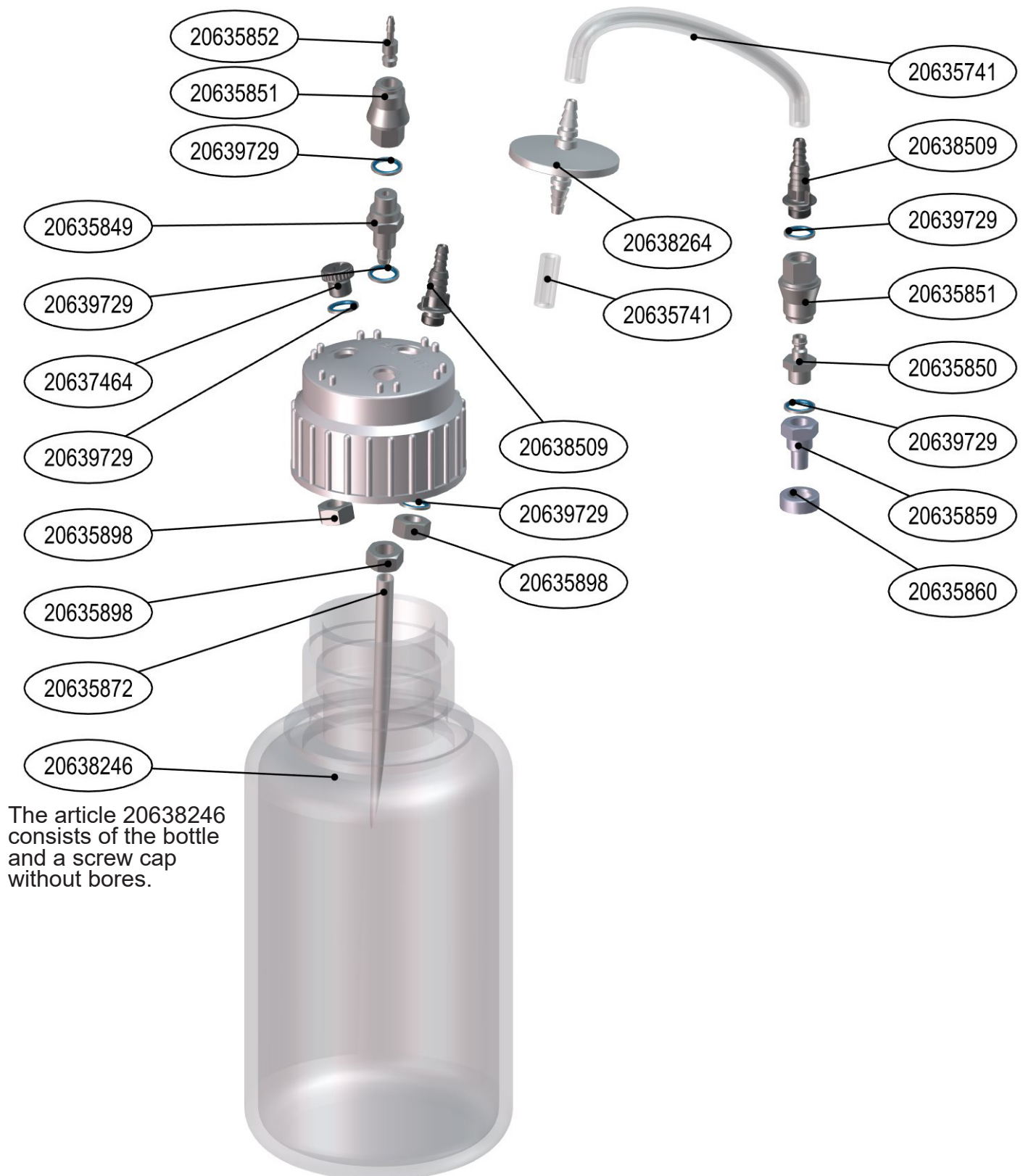
51. Wait approximately 1 minute until the pump starts.

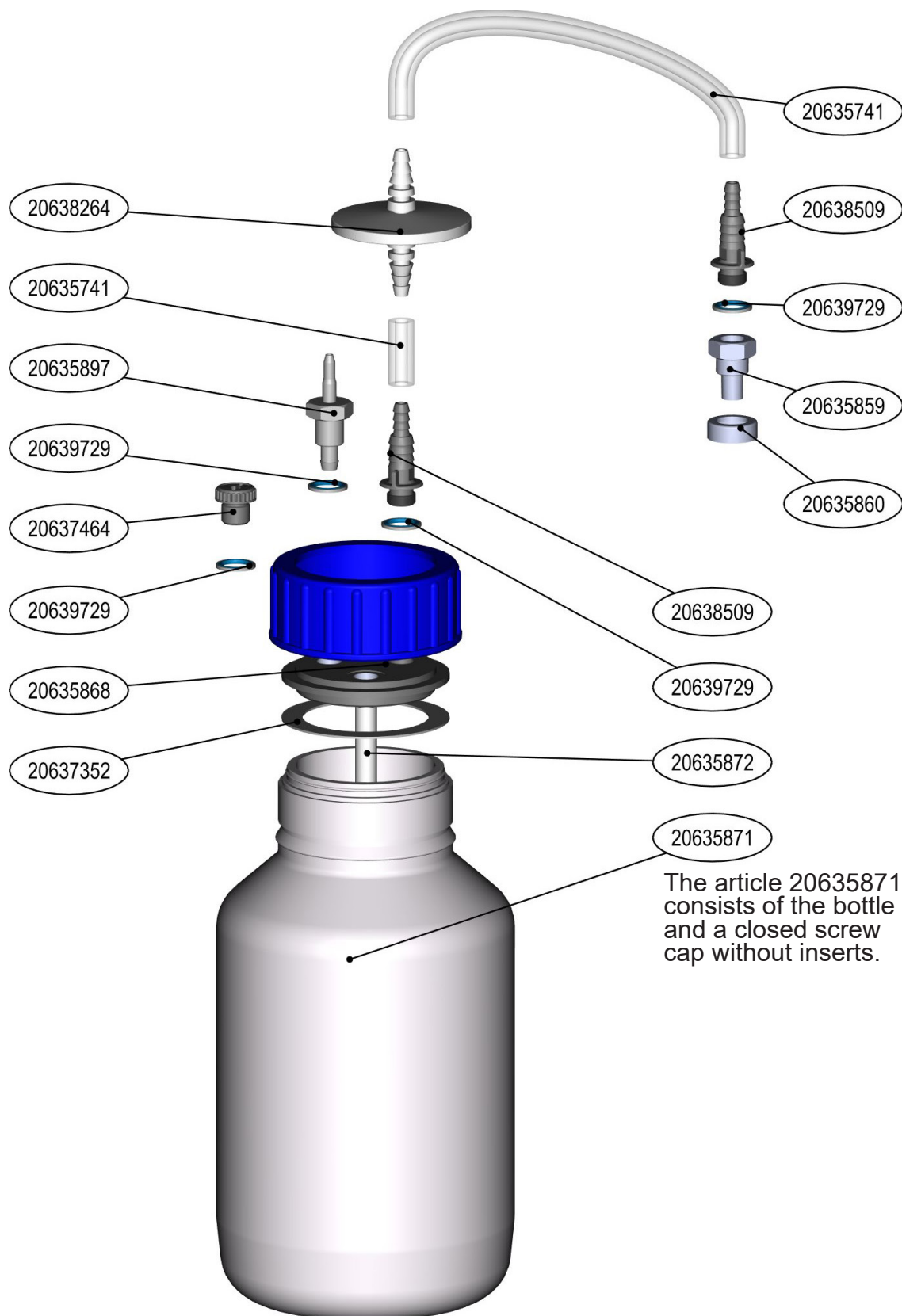
⇒ The adjustment routine is complete.

52. Adjust suction power if necessary by using key “+” or “-”.

### BVC polypropylene bottle without coupling

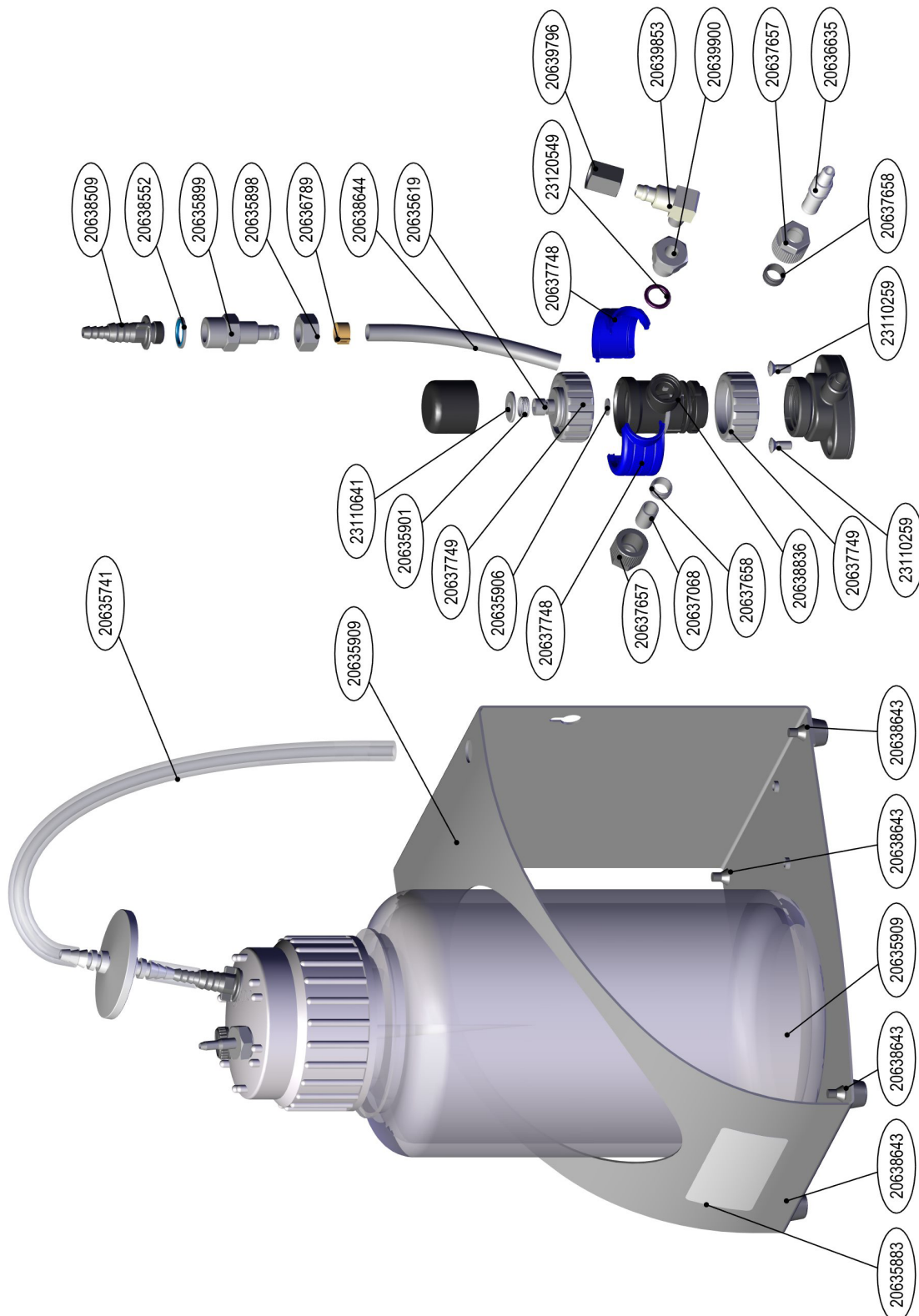


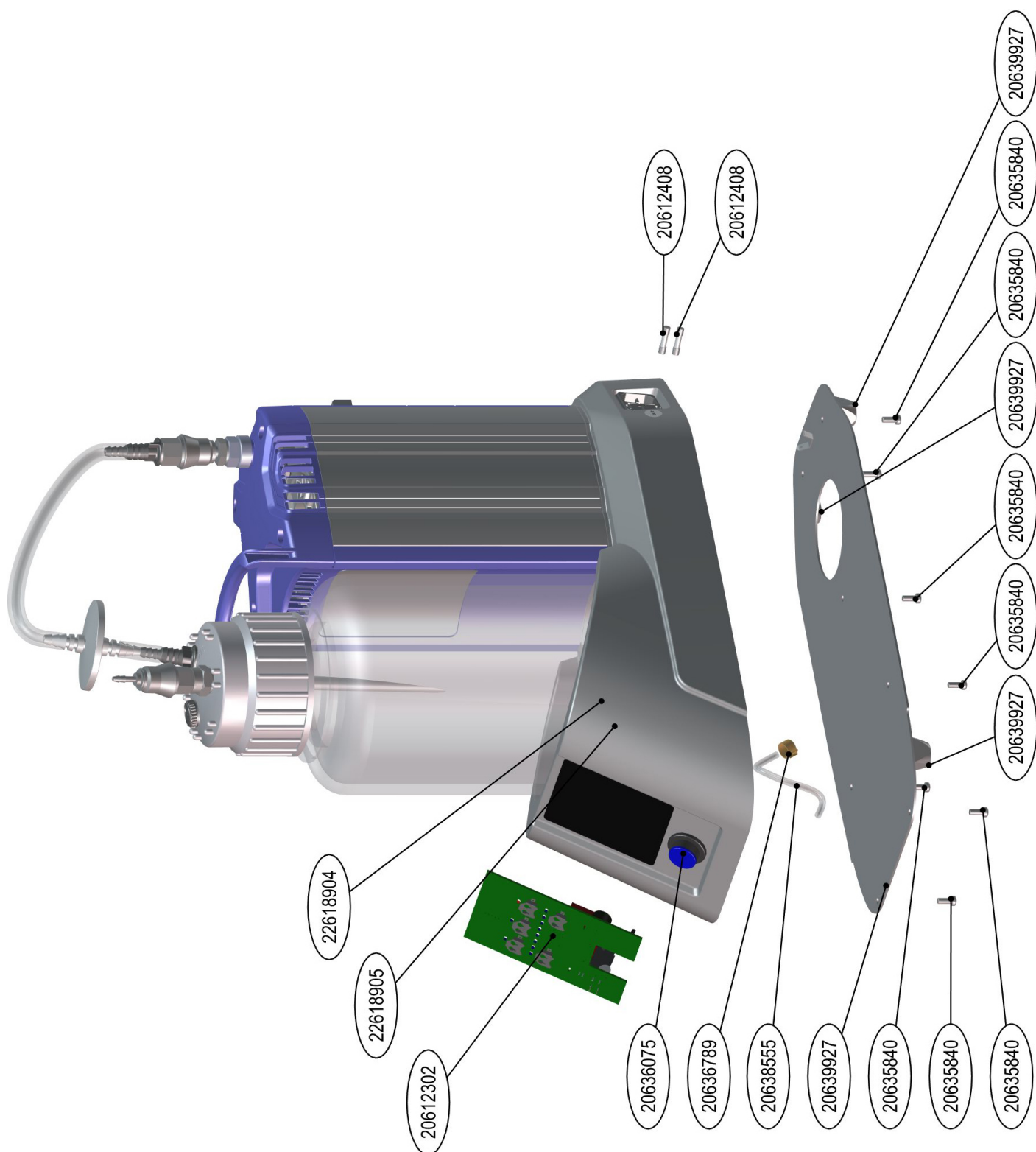
BVC polypropylene bottle with coupling

**BVC glass bottle**

*Attention: The seal 20637352 has a thickness of 2 mm. If an old seal with a thickness of 1 mm is replaced, please also order a new cover insert 20635868.*

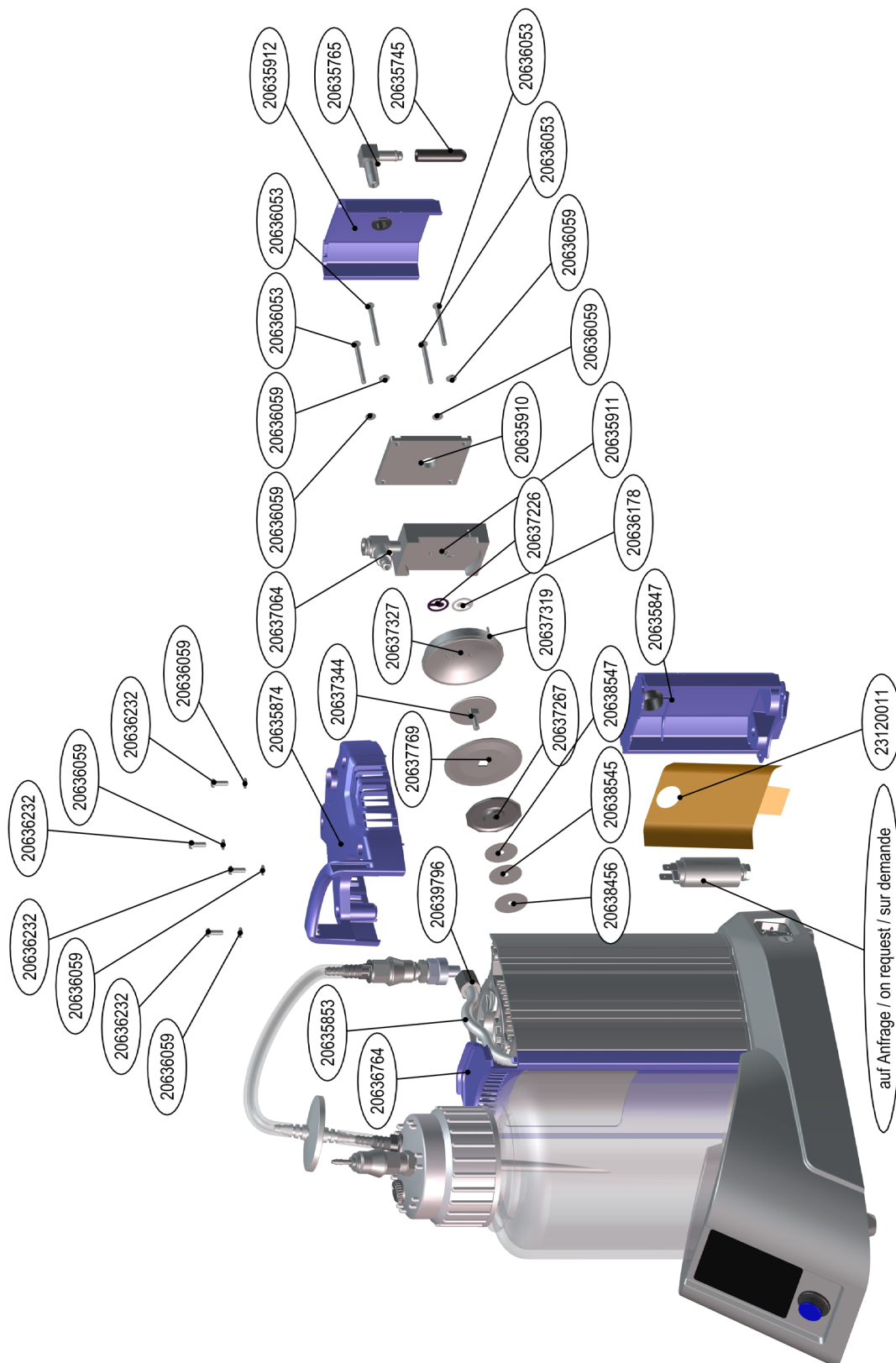
## BVC basic



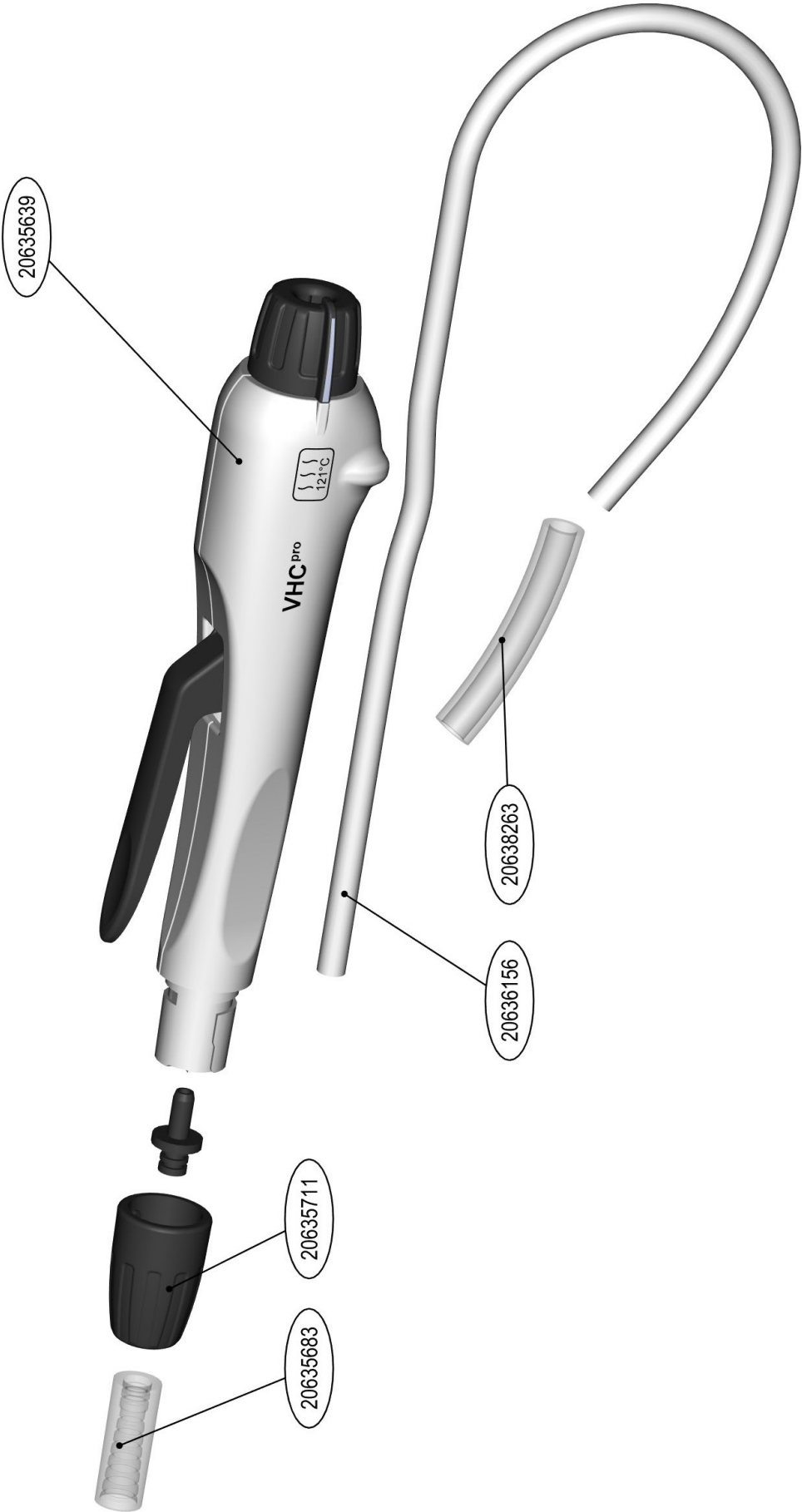
BVC control / professional



## BVC control / professional



VHC PRO



## 9 Spare parts

Bezeichnung	Designation	Désignation
20612302	Platine BVC Control/Professional ** ersetzt Art.-Nr. 20612770 **	Carte électronique BVC Control/Professional ** N° de remplacement de la référence 20612770 **
20612408	Sicherung 5x20 2,5AT, Mindestbestellmenge 10 St.	Fusible 5x20 2,5AT, minimum order quantity 10 pcs.
20635619	Stempel mit Membrane	Plunger with diaphragm
20635639	VHCpro Basisteil als Ersatzteil, ohne Saugschlauch, ohne Adapter und ohne Zubehör	VHCpro base part as spare part, w/o suction tubing, w/o adapters and w/o accessories
20635668	Blende BVC	Blind BVC
20635683	Adapter für Pipetten	Adapter for pipettes
20635711	Schraubkappe für VHCpro	Screw cap for VHCpro
20635741	Schlauch, Silikon, 12/6 mm	Hose, silicone, 12/6 mm
20635745	Kappe, geschlitzt	Cap, slotted
20635840	Linienkopfschraube M4x10mm, Torx	Round head screw M4x10mm, Torx
20635847	Gehäusedeckel Rückseite BVC	Housing cover rear side BVC
20635849	Durchführung G1/4-G1/4-10/8mm	Lead-through G1/4-G1/4-10/8mm
20635850	Stecker für Schnellkupplung	Plug for quick-coupling
20635851	Schnellkupplung	Quick-coupling
20635852	Schnellverschluss-Stecker BVC Professional	Quick-plug for BVC Professional
20635853	Schlauch, geformt, PTFE, 10/8 mm	Formed hose, PTFE, 10/8 mm
20635860	Kappe	Cap
20635871	Flasche 2L Glas, mit Schraubkappe unbearbeitet (ohne Filter, Schlauchanschluss, Blindstopfen)	Bottle 2L glass, with cap unmachined (w/o filter, connection for hose, blind plug)
20635872	Schlauch, gerade, PTFE, 10/8 mm für BVC	Hose, straight, PTFE, 10/8 mm for BVC
20635872	Schlauch, gerade, PTFE, 10/8 mm für BVC, ein Schlauchende angeschrägt	Hose, straight, PTFE, 10/8 mm for BVC, one hose end bevelled
20635874	Blende BVC	Cover BVC
20635883	Klebeschild ,BVC basic'	Adhesive label ,BVC basic'
20635897	Schlauchwelle DN 3/5mm, Gewinde G1/4	Hose nozzle DN 3/5mm, thread G1/4
20635898	Gegenmutter G1/4	Counter nut G1/4
20635899	Durchführung G1/4-G1/4-10/8mm	Lead-through G1/4-G1/4-10/8mm
20635901	Druckfeder	Vane spring
20635909	Flaschenträger für 4l Flasche	Bottle support for 4l bottle
20635910	Spannplatte	Clamping plate
20635911	Gehäusedeckelinnenteil ME 1C/BVC	Housing cover insert ME 1C/BVC
20635912	Gehäusedeckel Vorderseite BVC	Housing cover front BVC
20636053	Flachkopfschraube M4x40mm, Torx	Oval head screw M4x40mm, Torx
20636059	Spannscheibe	Clamping disc
20636073	Lüfterflügel	Fan blade
		Couvercle BVC
		Adapter pour pipettes
		Bouchon fileté pour VHCpro
		Tuyau, silicone, 12/6 mm
		Couvercle, rainuré
		Vis à tête bombée M4x10mm, Torx
		Couvercle de carter du revers BVC
		Passage G1/4-G1/4-10/8mm
		Connecteur pour coupleur
		Coupleur
		Connecteur rapide pour BVC Professional
		Tuyau modelé, PTFE, 10/8 mm
		Couvercle
		Flacon collecteur en verre 2L, avec bouchon brute (sans filtre, raccord de tuyau, obturateur)
		Tuyau plan, PTFE, 10/8 mm pour BVC
		Tuyau plan, PTFE, 10/8 mm pour BVC, un bout bi-seauter
		Couvercle BVC
		Autocollant ,BVC basic'
		Embout cannelé DN 3/5mm, G1/4
		Contre-écrou G1/4
		Passage G1/4-G1/4-10/8mm
		Ressort pour palette
		Support de bouteille pour bouteille 4l
		Griffe
		Intérieur du couvercle de carter ME 1C/BVC
		Couvercle de carter frontal BVC
		Vis à tête cylindrique bombée M4x40mm, Torx
		Disque de serrage
		Ailette de ventilateur

20636075	Ein-/Aussschalter, blau	Main switch, blue	Interrupteur principal, bleu
20636077	Toleranzring 10x6	Tolerance ring 10x6	Bague de tolérance 10x6
20636156	Ersatz-Schlauch für VHC, Mindestbestellmenge 2 m	Spare hose for VHC, minimum order quantity 2 m	Tuyaux de rechange pour VHC, la quantité minimum de commande est de 2 mèt
20636178	Ein- und Auslassventil D18, PTFE	Inlet and outlet valve D18, PTFE	Joint de clapet d'entrée et de sortie D18, PTFE
20636232	Flachkopfschraube M4x12mm, Edelstahl, Torx	Oval head screw M4x12mm, stainless steel, Torx	Vis à tête cylindrique bombée M4x12mm, inox, Torx
20636635	Schlauchwelle DN 6/10mm mit Rohransatz 10/8mm	Hose nozzle DN 6/10mm with tube 10/8mm	Embout cannelé DN 6/10mm
20636764	Senkschraube M4x10mm, Edelstahl, Torx	Countersunk screw M4x10mm, stainless steel, Torx	Vis à tête fraisée M4x10mm, inox, Torx
20636789	Schlauchschelle D 10,5	Hose clamp D 10.5	Collier de serrage pour tuyau D 10,5
20637064	Winkelverschraubung 1/8 NPT	Threaded elbow joint 1/8 NPT	Raccord à vis coudé 1/8 NPT
20637068	Verschlusskappe PTFE DN 10/8mm	Sealing cap PTFE DN 10/8mm	Bouchon de fermeture PTFE DN 10/8mm
20637226	Ein- und Auslassventil D18, FFKM (Ersatz für Best. Nr. 20637568)	Inlet and outlet valve D18, FFKM (replacement for cat.no. 20637568)	Joint de clapet d'entrée et de sortie D18, FFKM (remplace réf. 20637568)
20637267	Membranstützscheibe 7,2mm, klein	Diaphragm support disc 7.2mm, small	Disque de support de membrane 7.2mm
20637295	U - Scheibe A3,2	Plain washer A3,2	Rondelle A3,2
20637319	Zylindersstift 2m6x10 A2 EX LF ISO 2338	Zylindersstift 6x10mm	Cylindrical pin 6x10mm
20637327	Kopfdeckel Chemiemembranpumpe (klein)	Head cover chemistry diaphragm pump (small)	Couvercle de tête pour pompe à membrane chimie (petite)
20637344	Membranspannscheibe, klein	Clamping disc, small	Disque de tension de membrane
20637464	Verschlussschraube G 1/4	Blanking screw G 1/4	Obtuteur G 1/4
20637657	Rändelmutter M14x1 für Schlauchver- schraubung DN 10/8mm, ohne Klemmring	Knurled nut M14x1mm for hose fitting DN 10/8mm, w/o locking ring	Ecrou moleté M 14x1, pour raccord pour tuyau 10/8mm, sans bague de serrage
20637658	Klemmring 10mm für Rändelmutter M14x1 (637657)	Locking ring 10mm for knurled nut M14x1 (637657)	Bague de serrage D10 pour écrou moleté M 14x1 (637657)
20637748	Halbschale D40 POM	Half-shell D40 POM	Gouttière D40 POM
20637749	Überwurfmutter M35x1,5mm	Union nut M35x1.5mm	Ecrou d'accouplement M35x1,5mm
20637769	Membrane PTFE (klein)	Diaphragm PTFE (small)	Membrane PTFE (petite)
20638246	Flasche 4L PP mit Schraubkappe unbearbeitet (ohne Filter, Schlauchanschluss, Blindstopfen)	Bottle 4L PP with cap, unmachined (w/o filter, connection for hose, blind plug)	Flacon collecteur 4L en PP avec bouchon brute (sans filtre, raccord de tuyau, obturateur)
20638263	Schlauch, Silikon, 9/6 mm	Hose, silicone, 9/6 mm	Tuyau, silicone, 9/6 mm
20638264	Schutzfilter 64/0,2 hydrophob	Protection filter hydrophobic 64/0,2	Filter de protection hydrophobe 64/0,2
20638456	Distanzscheibe 0,1mm	Shim 0.1mm	Rondelle 0,1mm
20638509	Schlauchwelle DN 6/10mm, Gewinde G1/4	Hose nozzle DN 6/10mm, thread G1/4	Embout cannelé DN 6/10mm, G1/4
20638545	Distanzscheibe 0,2mm	Shim 0.2mm	Rondelle 0,2mm
20638547	Distanzscheibe 0,15mm	Shim 0.15mm	Rondelle 0,15mm
20638555	Schlauch, PVC, 4,8/1,6 mm	Hose, PVC, 4,8/1.6 mm	Tuyau, PVC, 4,8/1,6 mm
20638643	Steckfuß	Plug-in rubber foot	Pied caoutchouc insérable
20638644	Schlauch, gerade, PTFE, 10/8 mm	Hose, straight, PTFE, 10/8 mm	Tuyau plan, PTFE, 10/8 mm
20638836	Ein- und Auslassventil D24, FFKM	Inlet and outlet valve D24, FFKM	Joint de clapet d'entrée et de sortie D24, FFKM
20639729	Dichtring G1/4", PVC	Sealing ring G1/4", PVC	Joint G1/4", PVC
20639796	Überwurfmutter M14x1,5mm	Union nut M14x1.5mm	Ecrou raccord M14x1,5mm
20639848	Toleranzring 12x12mm	Tolerance ring 12x12mm	Bague de tolérance 12x12mm

20639853	Winkelverschraubung NPT 1/8, kurz, mit PTFE-Schlauchanschluss DN 10/8mm	Elbow fitting NPT 1/8, short, with connector for PTFE hose DN 10/8mm	Raccord à vis coudé NPT 1/8, pour tuyaux PTFE DN 10/8mm
20639900	Übergangsstück	Adapter	Adaptateur
20639927	Gummipuffer	Rubber foot	Pied caoutchouc
20696879	Dichtungssatz für BVC professional, BVC control	Set of diaphragms and valves for BVC professional, BVC control	Set de membranes et clapets pour BVC professional, BVC control
22618904	Umbausatz Gehäuse BVC professional inkl. Schalter, Elektronik und Frontglas.	Conversion kit housing BVC professional with main switch, electronics and display.	Le kit de modification interrupteur BVC Professional
22618905	Umbausatz Gehäuse BVC control inkl. Schalter, Elektronik und Frontglas.	Conversion kit housing BVC control with main switch, electronics and display.	Le kit de modification interrupteur BVC control
23110259	Linsensenkschraube M5x12mm, Edelstahl	Round head countersunk screw M5x12mm, stainless steel	Vis à tête fraisée bombée M5x12mm, inox
23110641	Unterlegscheibe 6,4	Washer 6.4	Rondelle 6,4
23111274	Fächerscheibe A 3,2 verzinkt	Serrated lock washer A 3.2 galvanised	Rondelle éventail A 3,2 zinguée
23120011	Isolierfolie ME 1/C // BVC	Insulating film ME 1/C // BVC	Feuille d'isolation ME 1/C // BVC
23120549	O-Ring, 11mm x 2,5mm, FPM	O-ring, 11mm x 2.5mm, FPM	Joint torique, 11mm x 2,5mm, FPM
	Kondensator auf Anfrage	Capacitor on request	Condensateur sur demande

## 10 Service

Service range Take advantage of the comprehensive range of services available from **VACUUBRAND GMBH + CO KG**.

### Services in detail

- Product consultation and practical solutions
- Fast delivery of spare parts and accessories
- Professional maintenance
- Immediate repairs processing
- On-site service (on request)
- With Health and Safety Clearance form: return, disposal.

⇒ Visit our website for further information: [www.vacuubrand.com](http://www.vacuubrand.com).

### Service handling

⇒ Follow the description on: VACUUBRAND > Support > [Service](#)

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service



Reduce downtime, speed up processing. Please have the required data and documents at hand when contacting our Service Department.

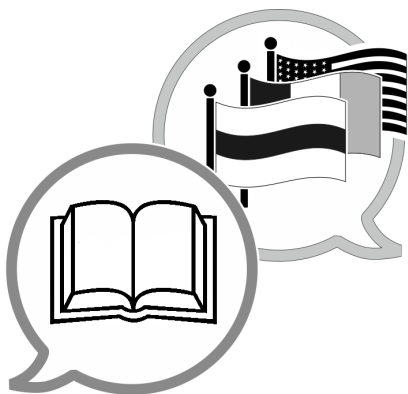
- ▶ Your order can be quickly and easily processed.
- ▶ Hazards can be prevented.
- ▶ A brief description and/or photos will help locate the source of the error.











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