



Technology for Vacuum Systems

VACUUM ASPIRATION SYSTEMS



Type: BVC basic, BVC control, BVC professional,
BVC basic G, BVC control G, BVC professional G,
VHC^{pro}

Instructions for repair

EN



**Original instructions
Keep for future use!**

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

Manufacturer:
VACUUBRAND GMBH + CO KG
Alfred-Zippe-Str. 4
97877 Wertheim
GERMANY

Phone:

- Head office +49 9342 808-0
- Sales +49 9342 808-5550
- Service +49 9342 808-5660

Fax: +49 9342 808-5555
E-Mail: info@vacuubrand.com
Web: www.vacuubrand.com

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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

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

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

Copyright ©

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Contact

Contact us

- 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.
- 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



Warning symbol.



Attention!

Observe precautions for handling electrostatic sensitive devices.

Additional icons



Refers to content of other documents.

Convention for additional notes

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

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

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 is especially valid for 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-reparable equipment is required.


You may authorize us to dispose the equipment at your expense.


3 Notes concerning repair


IMPORTANT! Replace defective parts in any case.

3.1 Typical lifetime

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

	WARNING
	<p>Risk of injury due to a disassembled device. Operating a disassembled device may lead to personal injury.</p> <ul style="list-style-type: none"> ⇒ Never operated a opened or disassembled device. ⇒ Ensure that a disassembled device never starts unintentionally.

	WARNING
	<p>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,</p> <ul style="list-style-type: none"> ⇒ 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
	<p>Damage due to defective wear parts. Defective wear parts may lead to failure of the device.</p> <ul style="list-style-type: none"> ⇒ Wear parts have to be replaced in time.

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 from mains

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

⇒ Allow the capacitors to discharge.



⇒ Connect the person in charge to ground prior to any contact with electronic components to avoid damage from electrostatic discharges (ESD).

3.3 After maintenance and repair

Testing

Testing

Check operability and safety after maintenance and repair.

⇒ Check the electrical safety according to IEC 61010 and national regulations after maintenance and repair.

BVC control / G und 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.

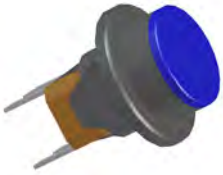
Please ask for replacement in case of missing instructions for use. Alternatively, you can download instructions for use on our web page: www.vacuubrand.com.



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

- ⇒ Observe section „Return“.

4 Replacing the main switch



Spare part

Main switch, blue (635239)



Tool

Torx 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.



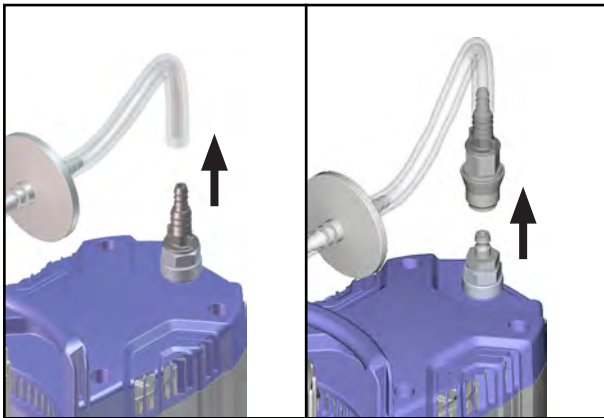
CAUTION

Electrostatic discharge (ESD).

Damage of electronic components.

- ⇒ Do not touch electronic components.
- ⇒ Connect the person in charge to ground appropriately.





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



2. Remove bottle from support.



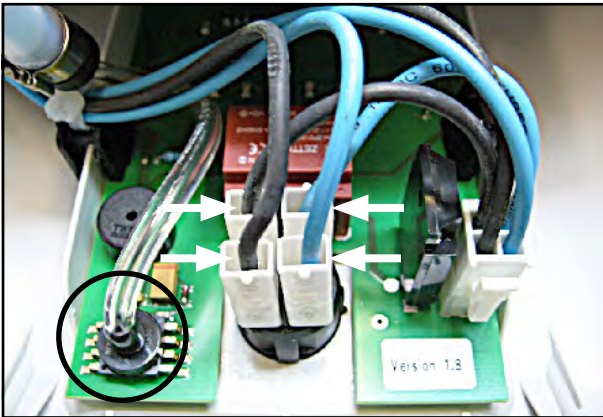
3. Lay down the BVC as shown.
4. Unscrew screws at the base plate.



5. Slide the base plate to the side. It is not necessary to disconnect the earth cables.



IMPORTANT! Connect person to ground before coming in contact with electronic parts.



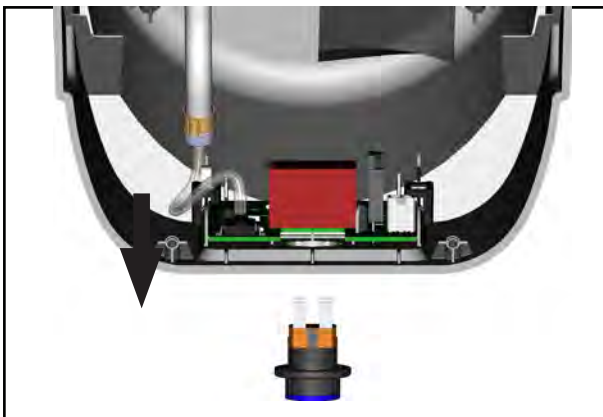
The pressure sensor (see mark) is sensitive to electrostatic discharge.

Do not touch the pressure sensor.

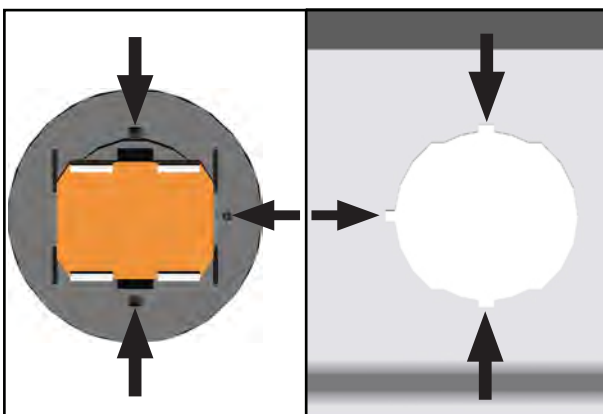
6. Disconnect four cables at the main switch.



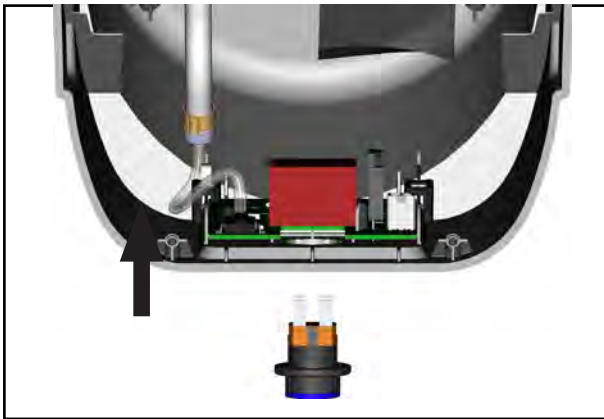
7. Press the tabs at the main switch together and press the bottom of the main switch.



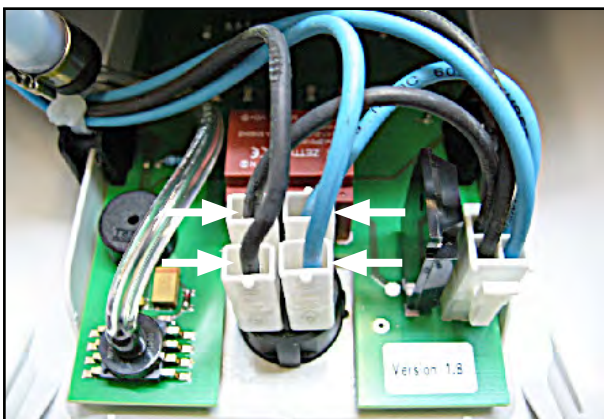
8. Remove the main switch from housing.



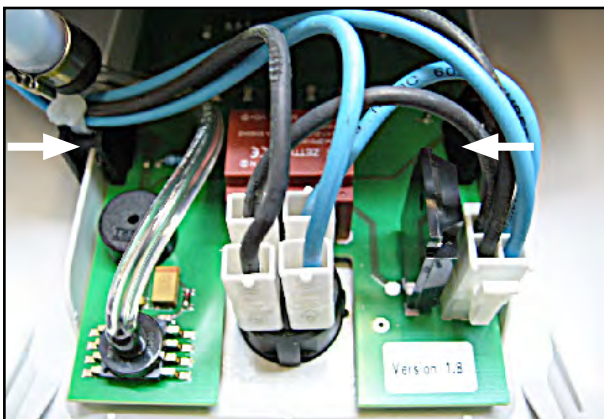
9. Take care of the lugs at the main switch and the recesses provided in the housing when assembling the main switch.



10. Insert the main switch in the housing.



11. Plug the cables on the main switch, see circuit diagram.



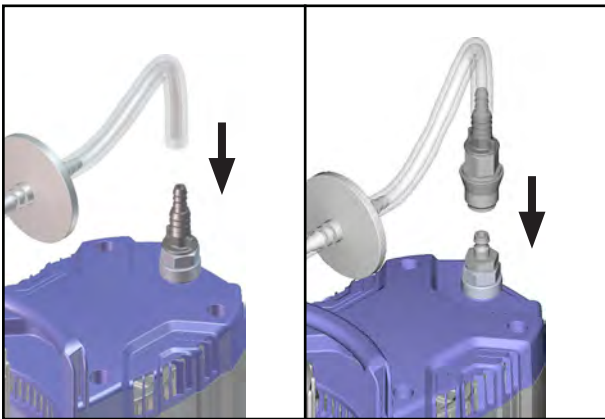
12. Check the firm seat of the circuit board.
13. Press the mounting clips if necessary.



14. Check the firm seat of the earth cables at the base plate.
15. Position the base plate.
16. Screw the base plate.



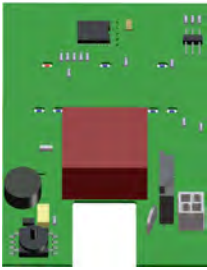
17. Position the BVC on the feet.
18. Position bottle in the support.



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

IMPORTANT! ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.

5 Replacing the circuit board



Spare part

Circuit board BVC control / professional (612770)



Tool

Torx screw driver TX20

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.



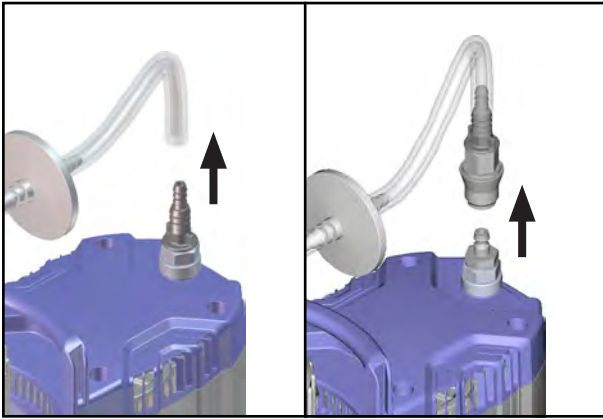
CAUTION

Electrostatic discharge (ESD).

Damage of electronic components.

- ⇒ Do not touch electronic components.
- ⇒ Connect the person in charge to ground appropriately.

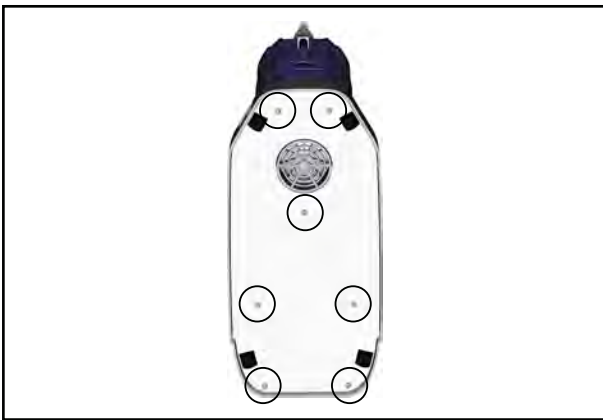




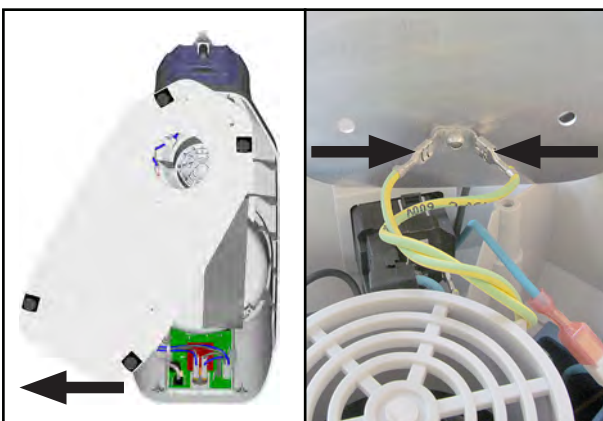
1. Depending on BVC version, remove connection tubing at the hose nozzle or detach quick coupling.



2. Remove bottle from support.



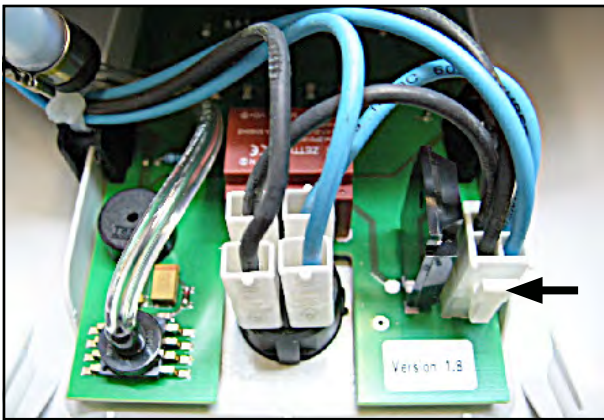
3. Lay down the BVC as shown.
4. Unscrew screws at the base plate.



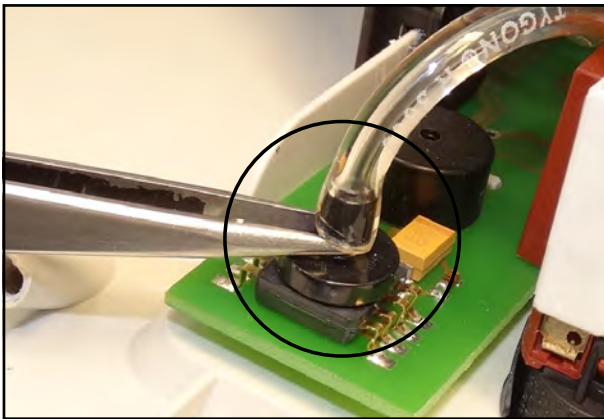
5. Slide the base plate to the side. It is not necessary to disconnect the earth cables.



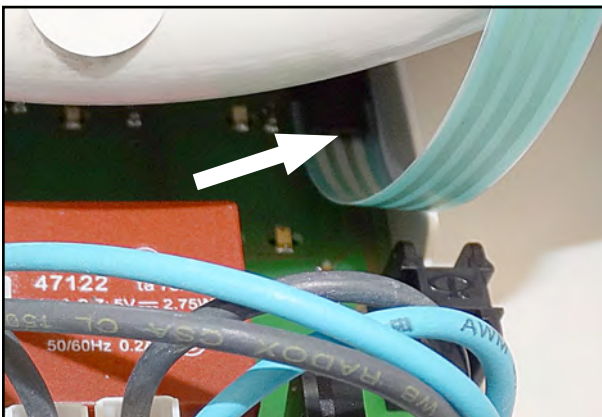
IMPORTANT! Connect person to ground before coming in contact with electronic parts.



6. Disconnect cables at the circuit board.



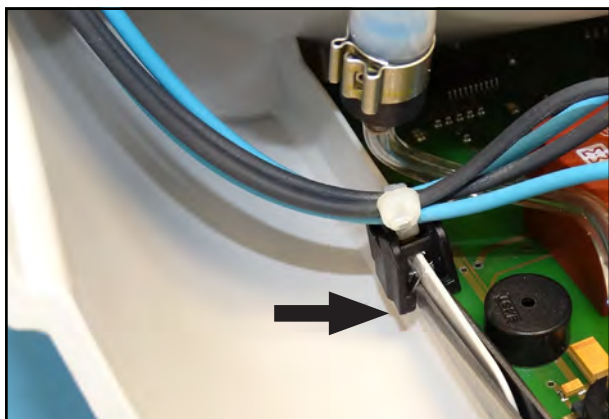
7. Remove hose from pressure sensor using tweezers.



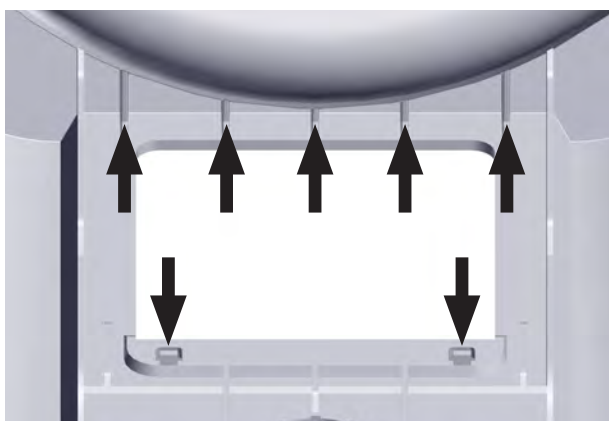
8. **Only BVC professional / G:** Unplug the ribbon cable from the circuit board.



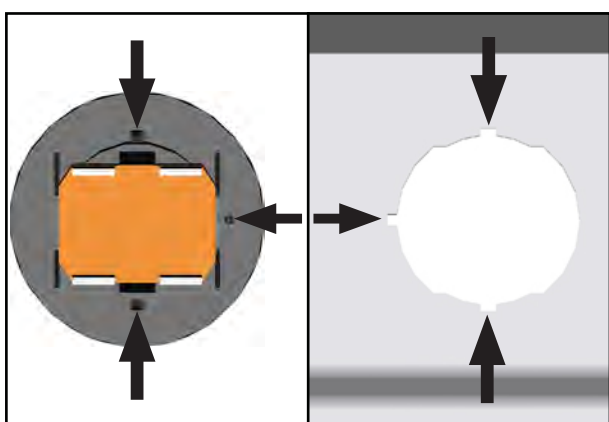
9. Press the tabs at the main switch together and press the main switch out of the housing. It is not necessary to remove the cables from the main switch.



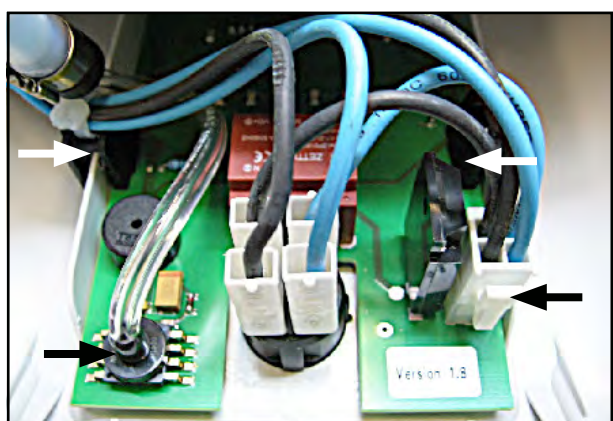
10. Remove both mounting clips fixing the circuit board using tweezers.
11. Remove defective circuit board



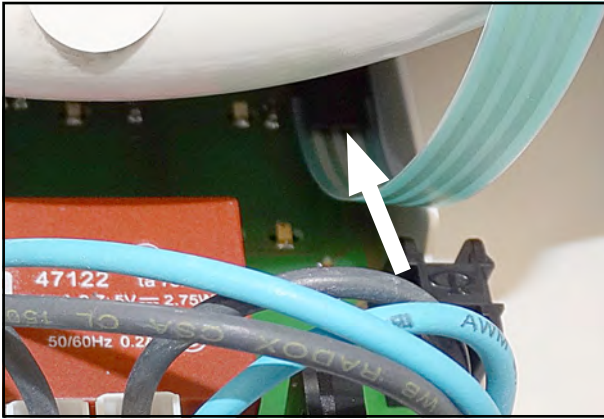
12. Insert the new circuit board in the grooves and stud bolts.



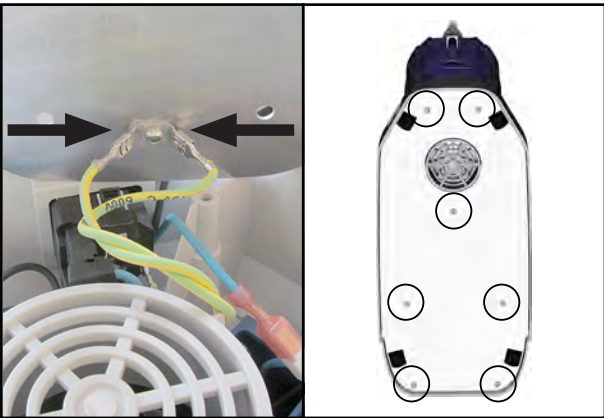
13. Take care of the lugs at the main switch and the recesses provided in the housing when assembling the main switch.
14. Insert the main switch in the housing.



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



19. Only BVC professional / G: Plug the ribbon cable to the electronic board. Check the firm seat.



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

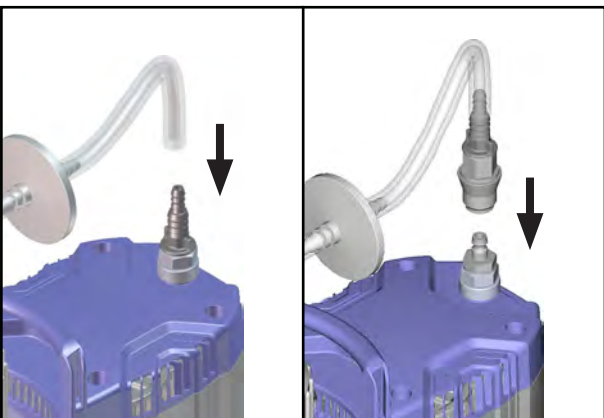
21. Position the base plate.

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

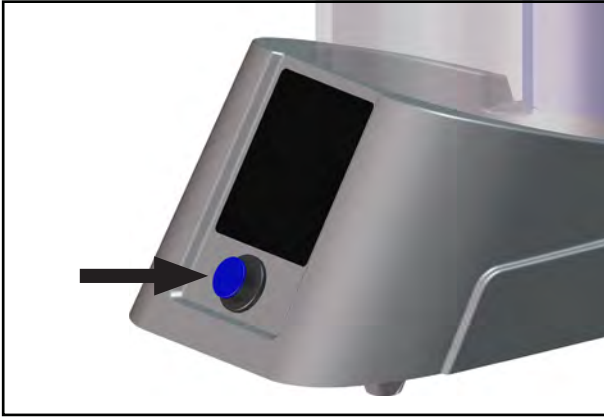


23. Position the BVC on the feet.

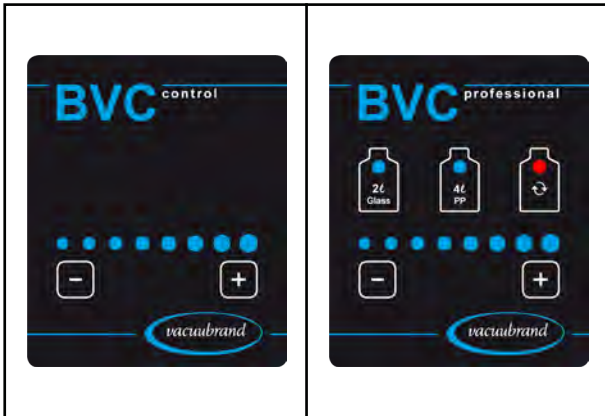
24. Position bottle in the support.



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



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, otherwise it takes several minutes until the keys work correctly!**



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

IMPORTANT! ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.

Only BVC professional / G

IMPORTANT! ⇒ Adjust the liquid level sensor after replacing the circuit board.
 ⇒ Check the function of the liquid level sensor.

6 Replacing the motor capacitor

Spare part

For 230V devices

Capacitor 2,5 μ F / 450V (635744)

For 100-120V devices

Capacitor 6 μ F / 280V (636056)



Tool

Torx 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.

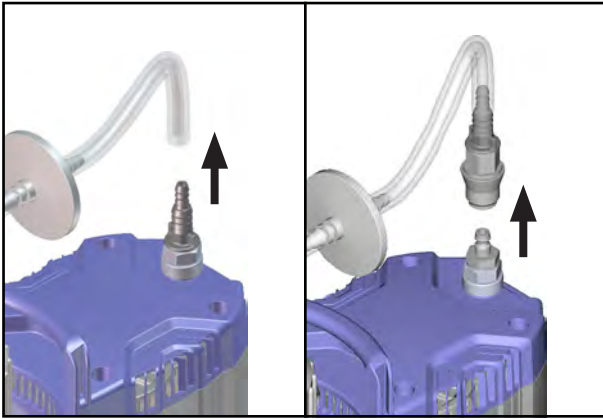


WARNING

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.



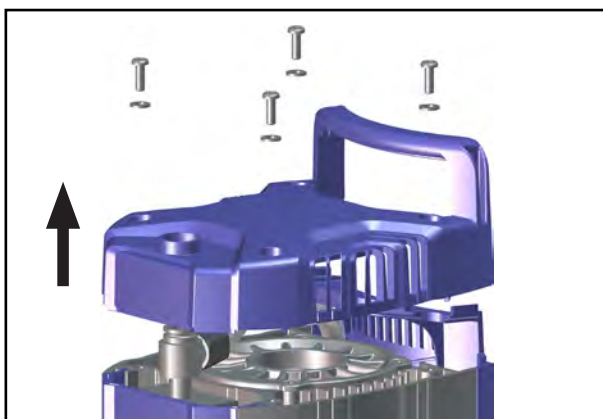
1. Depending on BVC version, remove connection tubing at the hose nozzle or detach quick coupling.



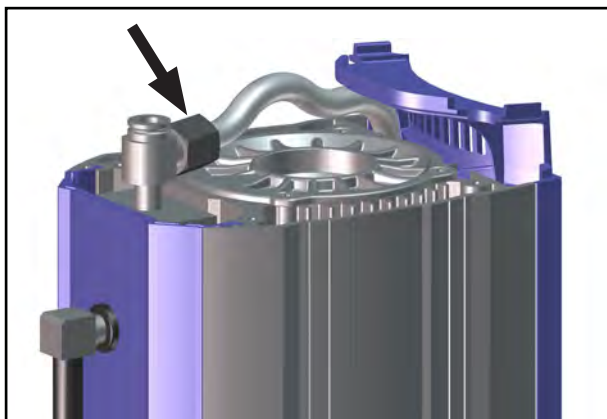
2. Remove bottle from support.



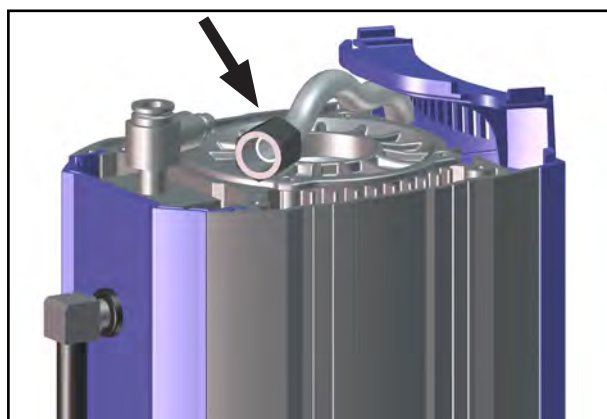
3. Depending on BVC version, unscrew the hose nozzle or the coupling.



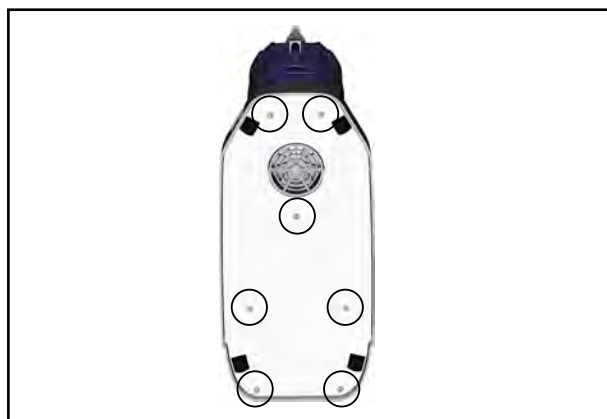
4. Unscrew the cover.
5. Pay attention to washers.



6. Loosen the union nut.



7. Turn away hose from hose connector.

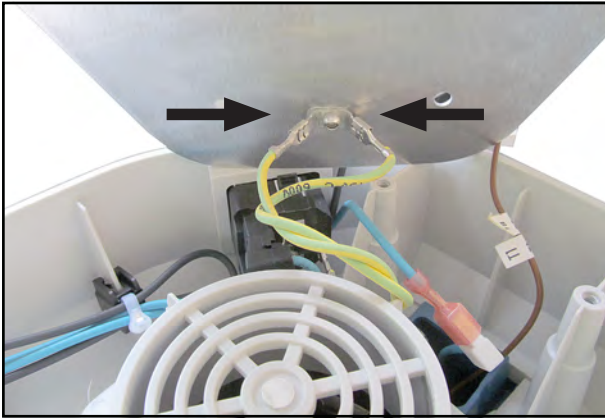


8. Lay down the BVC as shown.

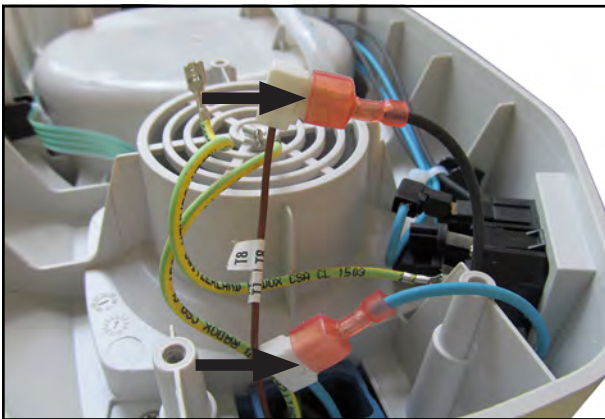
9. Unscrew screws at the base plate.



10. Slide the base plate to the side.

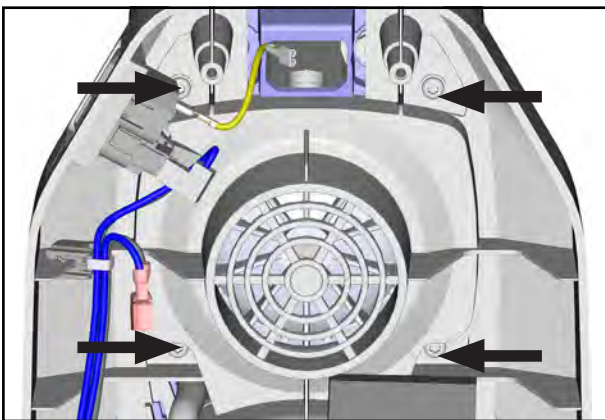


11. Pull both earth cables from base plate.

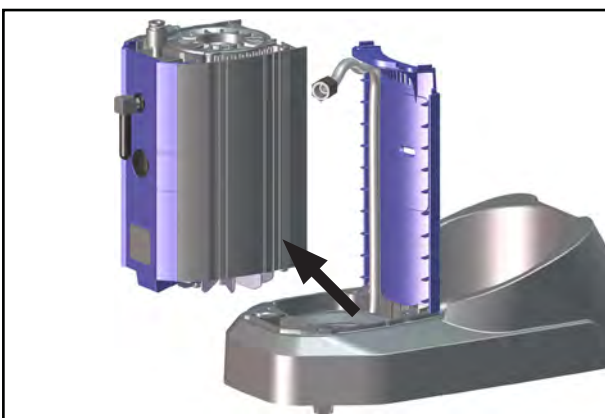


Electronic components are sensitive to electrostatic discharge (ESD). Do not touch electronic components.

12. Pull both cables at the main switch.

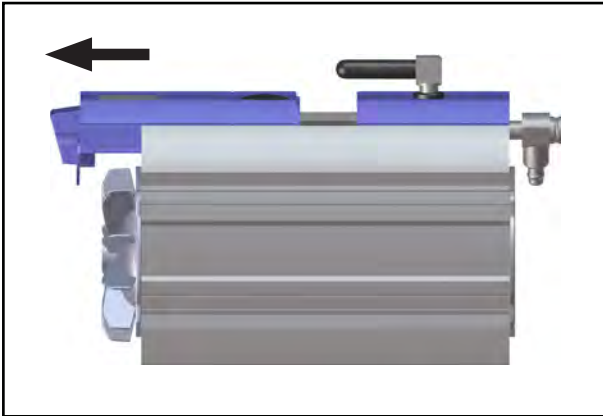


13. Unscrew the four screws fixing the motor.

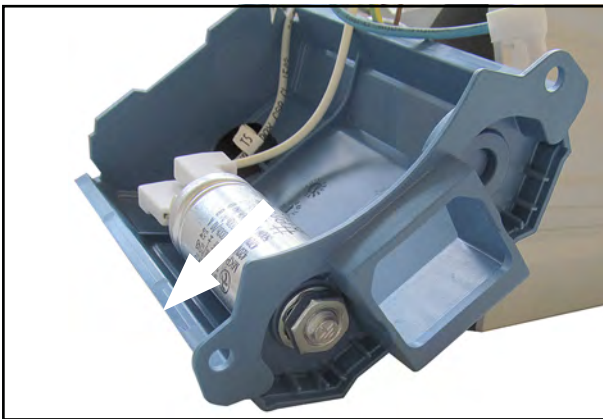


14. Hold the pump and position the BVC on the feet.

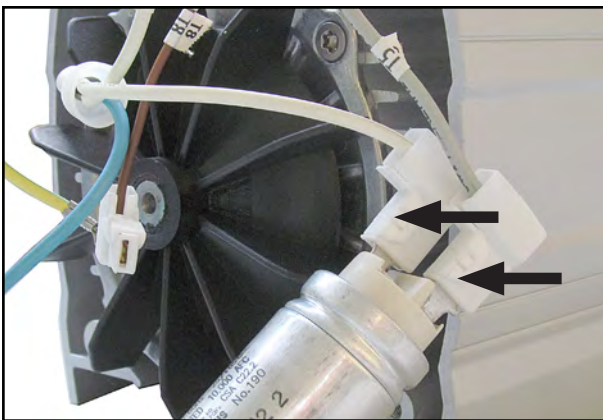
15. Lift the pump from holder.



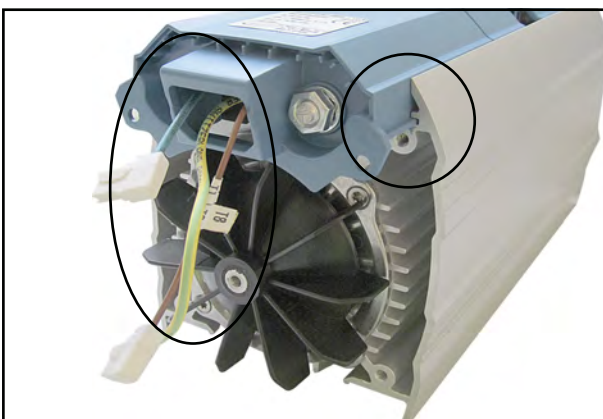
- 16. Place the pump as shown.
- 17. Remove the blind.



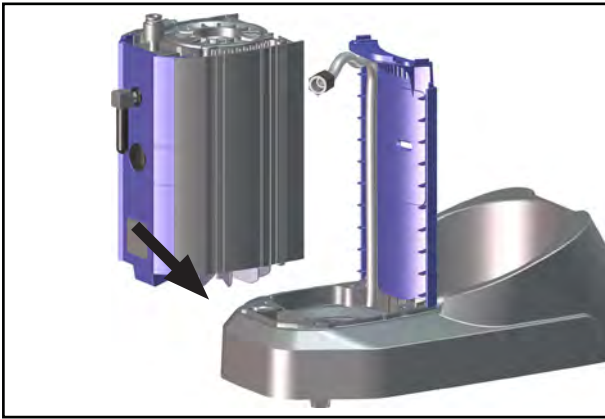
- 18. Unscrew the motor capacitor.



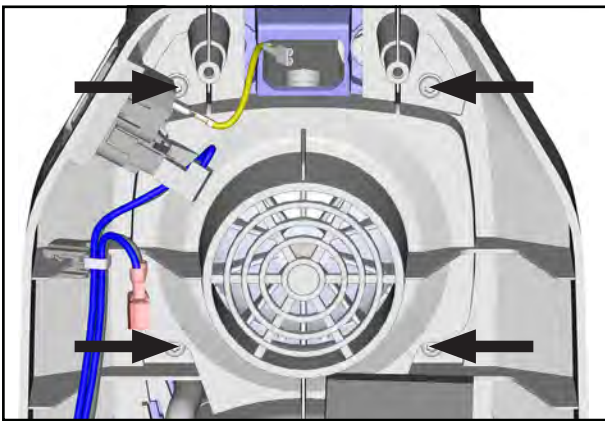
- 19. Pull both cables at the motor capacitor.
- 20. Attach both cables to the new motor capacitor.
- 21. Screw the motor capacitor to blind.



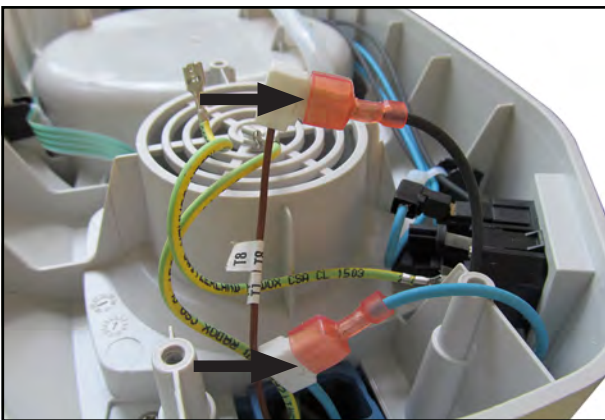
- 22. Insert the cable through the opening in the blind.
- 23. Pay attention to correct position of the blind in the housing.
- 24. Slide the blind on the pump.



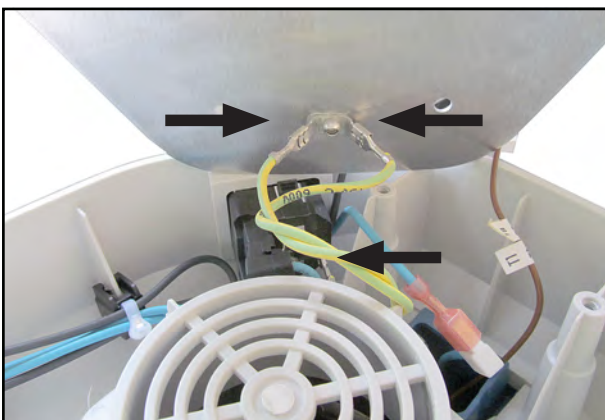
- 25. Pay attention to cables. Do not squeeze cables.
- 26. Insert the cables through the holder.
- 27. Position pump in holder.



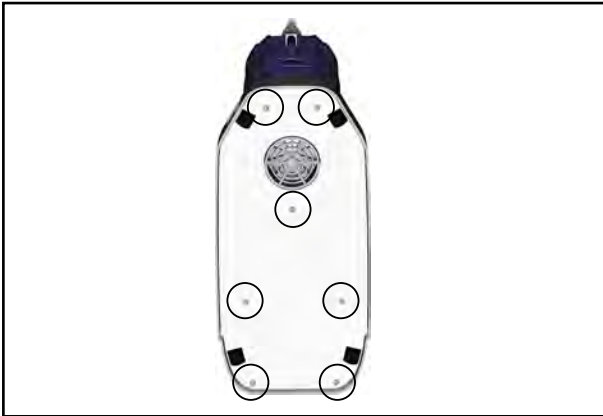
- 28. Hold the pump and lay down the BVC.
- 29. Screw the pump.



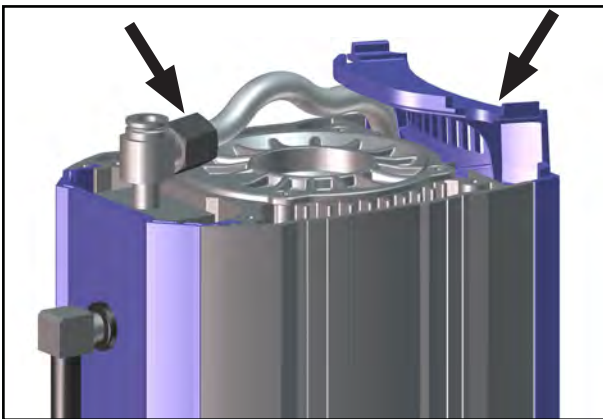
- 30. Connect the cables.



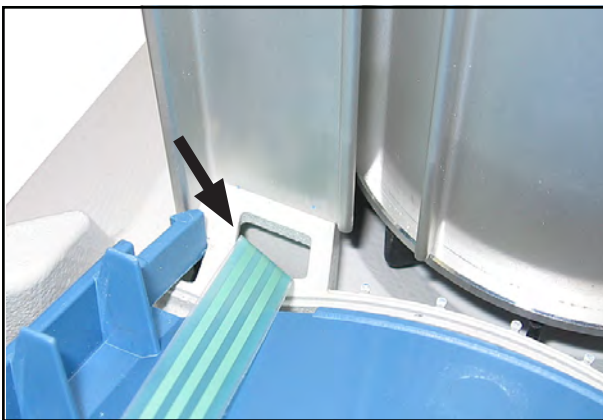
- 31. Twist the earth cables three times.
- 32. Plug the earth cables to the base plate.



- 33. Position the base plate.
- 34. Screw the base plate.



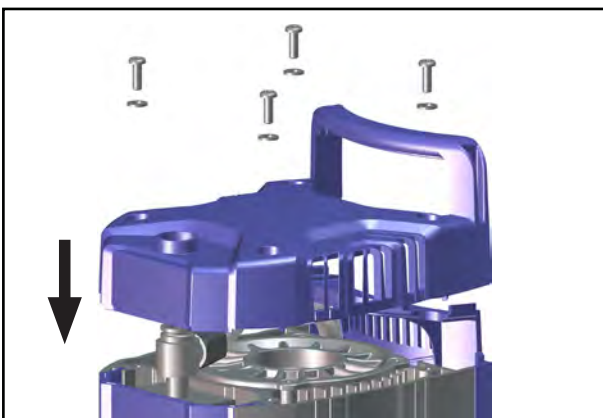
- 35. Position the BVC on the feet.
- 36. Connect hose to hose connector.
- 37. Screw the union nut.
- 38. Position blind in holder if necessary.



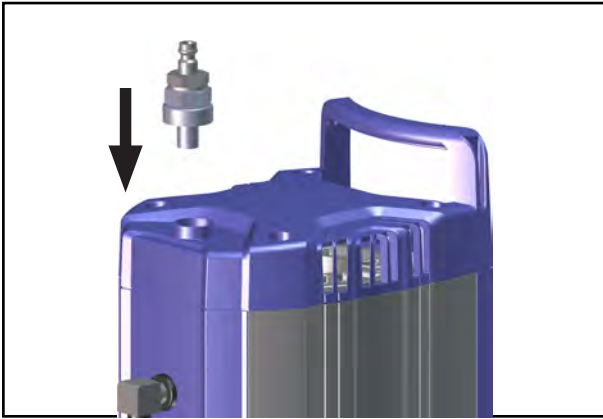
Only BVC professional / G:

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.



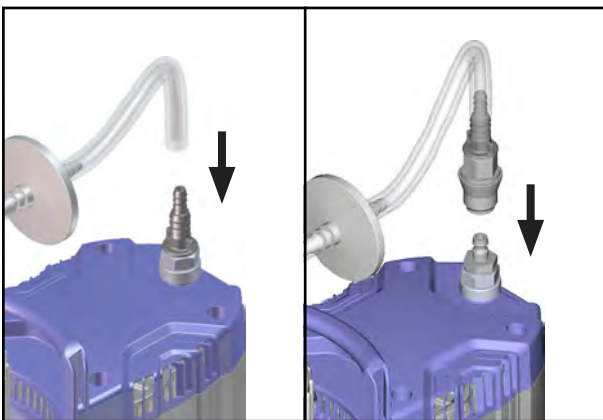
- 39. Screw the blind.



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



41. Position bottle in the support.

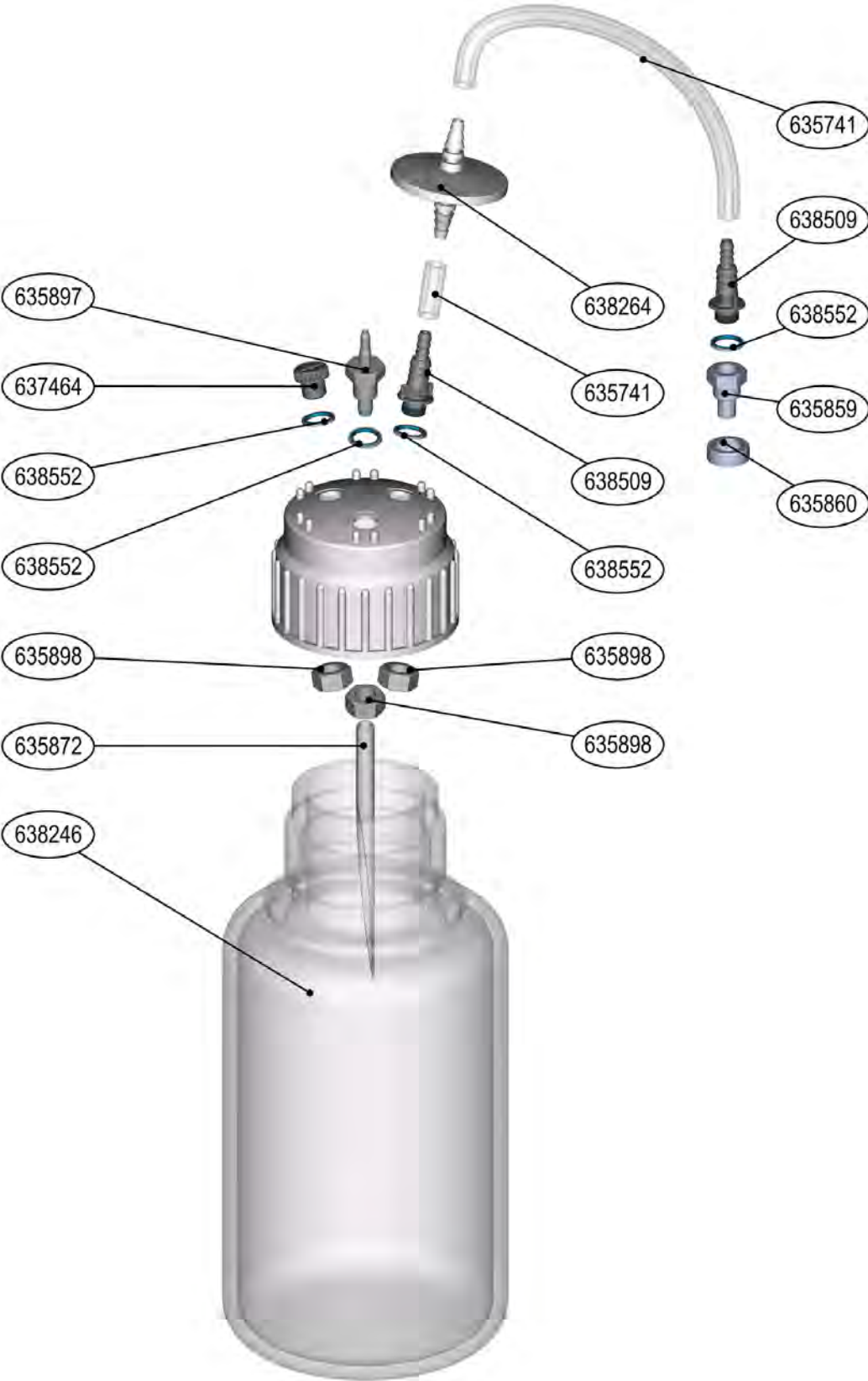


42. Depending on BVC version, position tubing to hose nozzle or quick coupling.

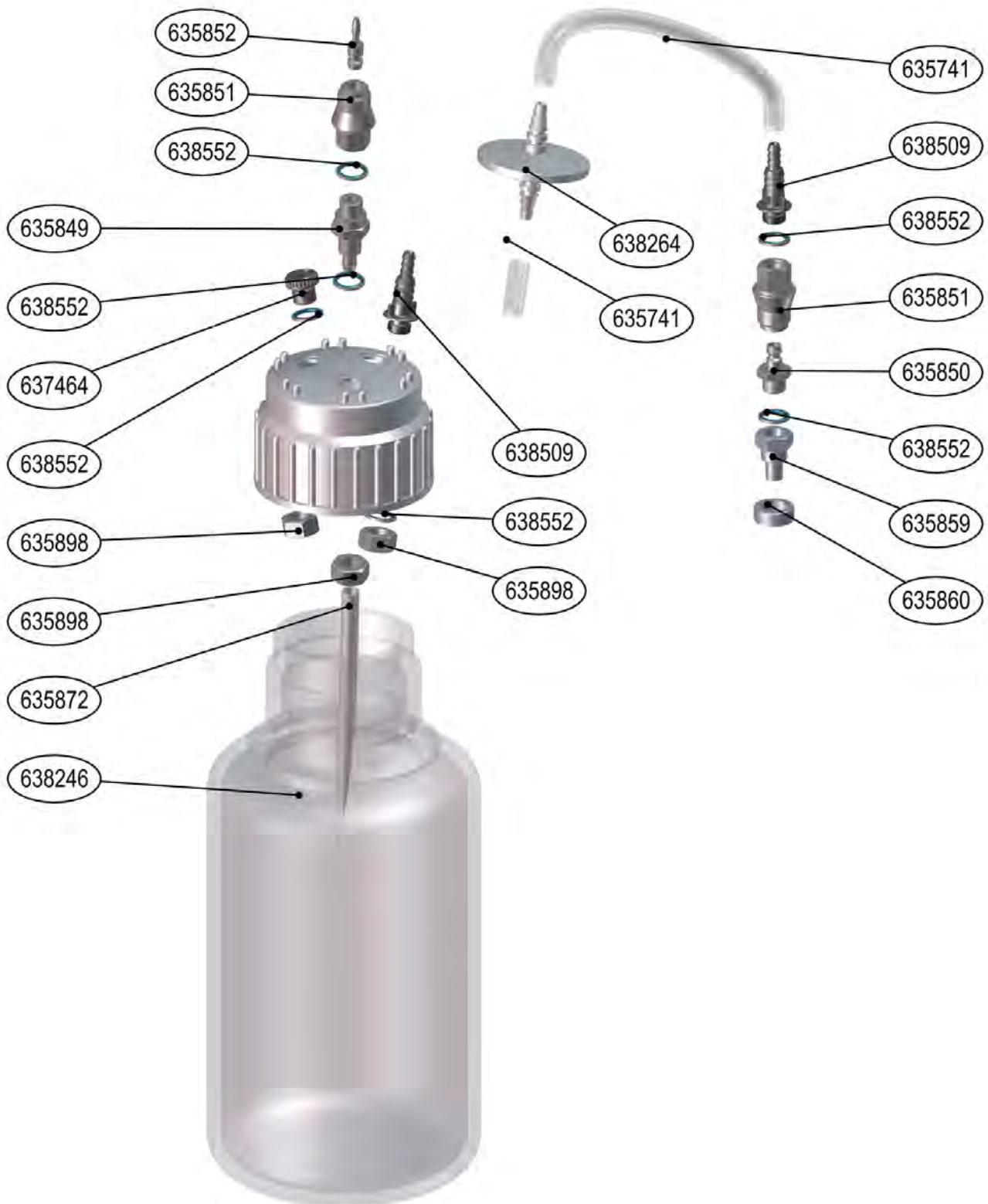
IMPORTANT! ⇒ Check the electrical safety of the device according to IEC 61010 and national regulations after repair.

7 Exploded drawing

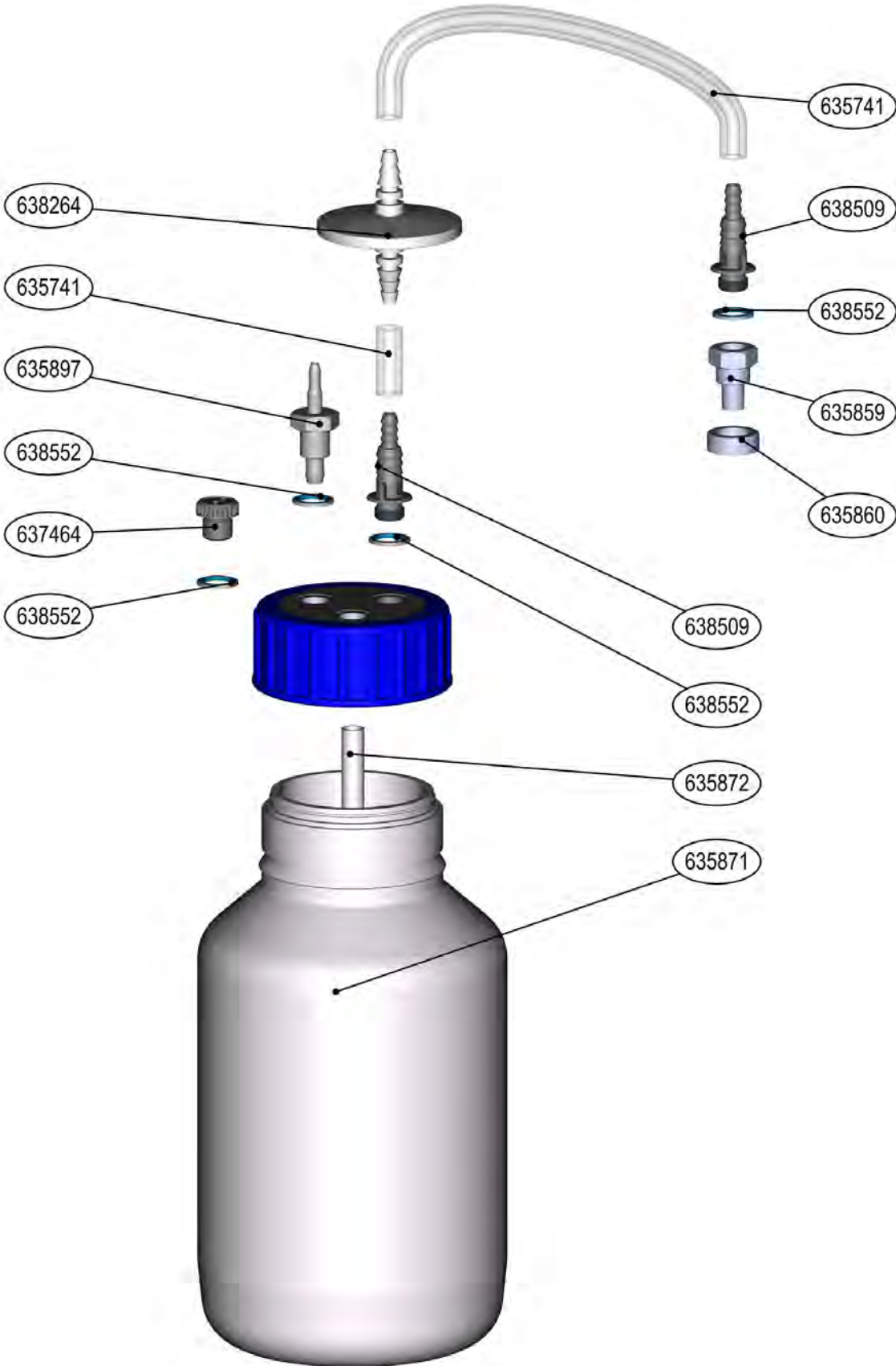
BVC polypropylene bottle without coupling



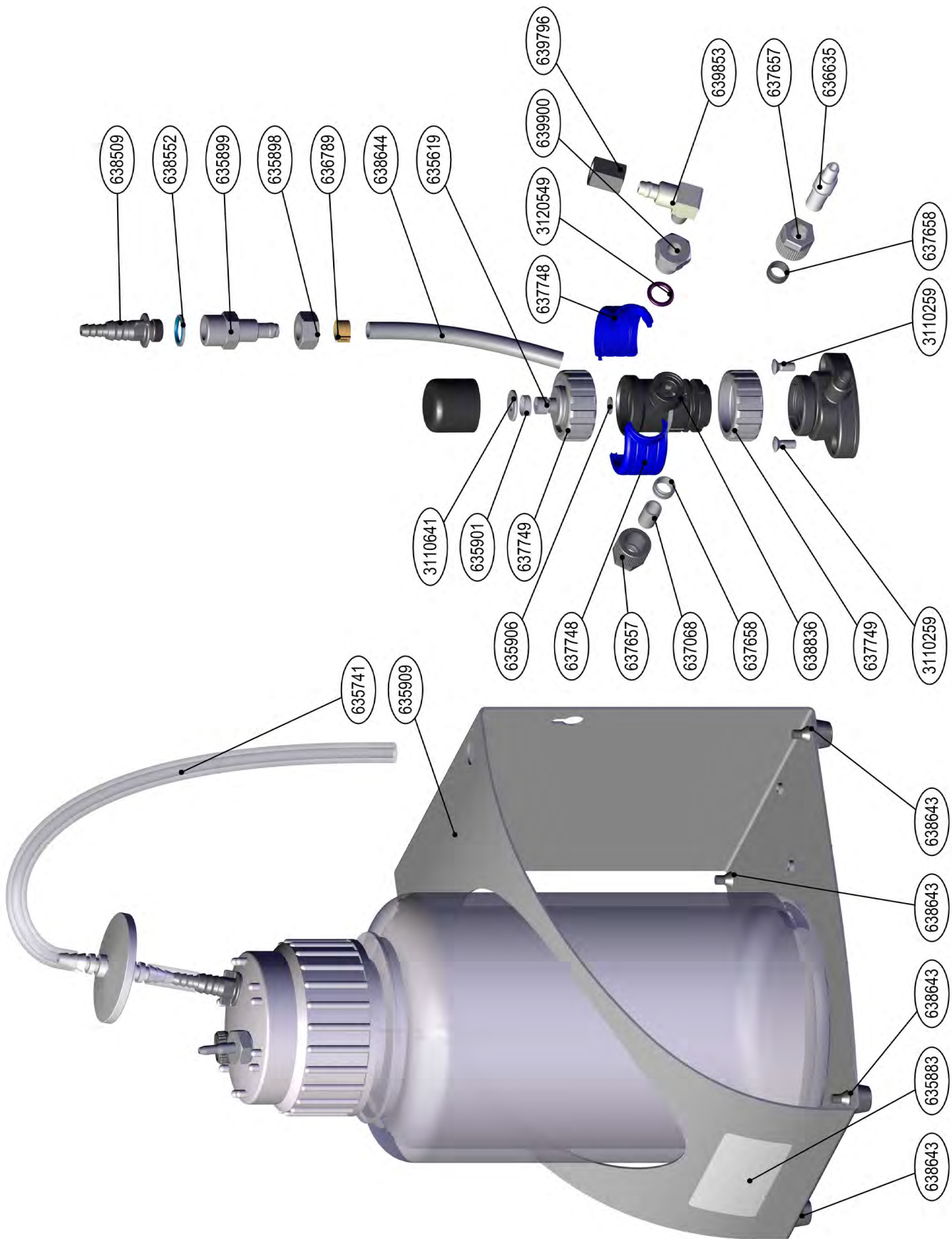
BVC polypropylene bottle with coupling



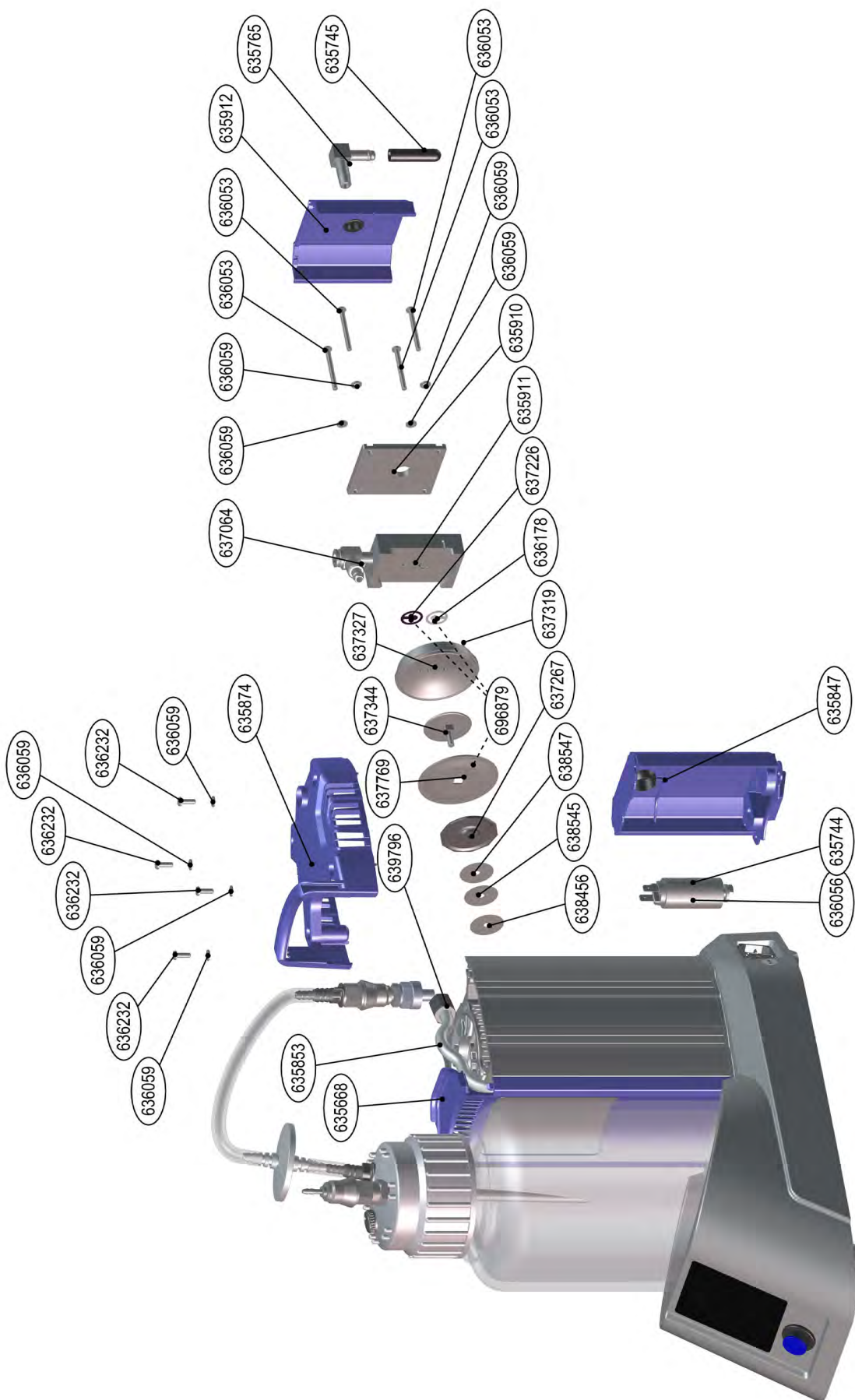
BVC glass bottle



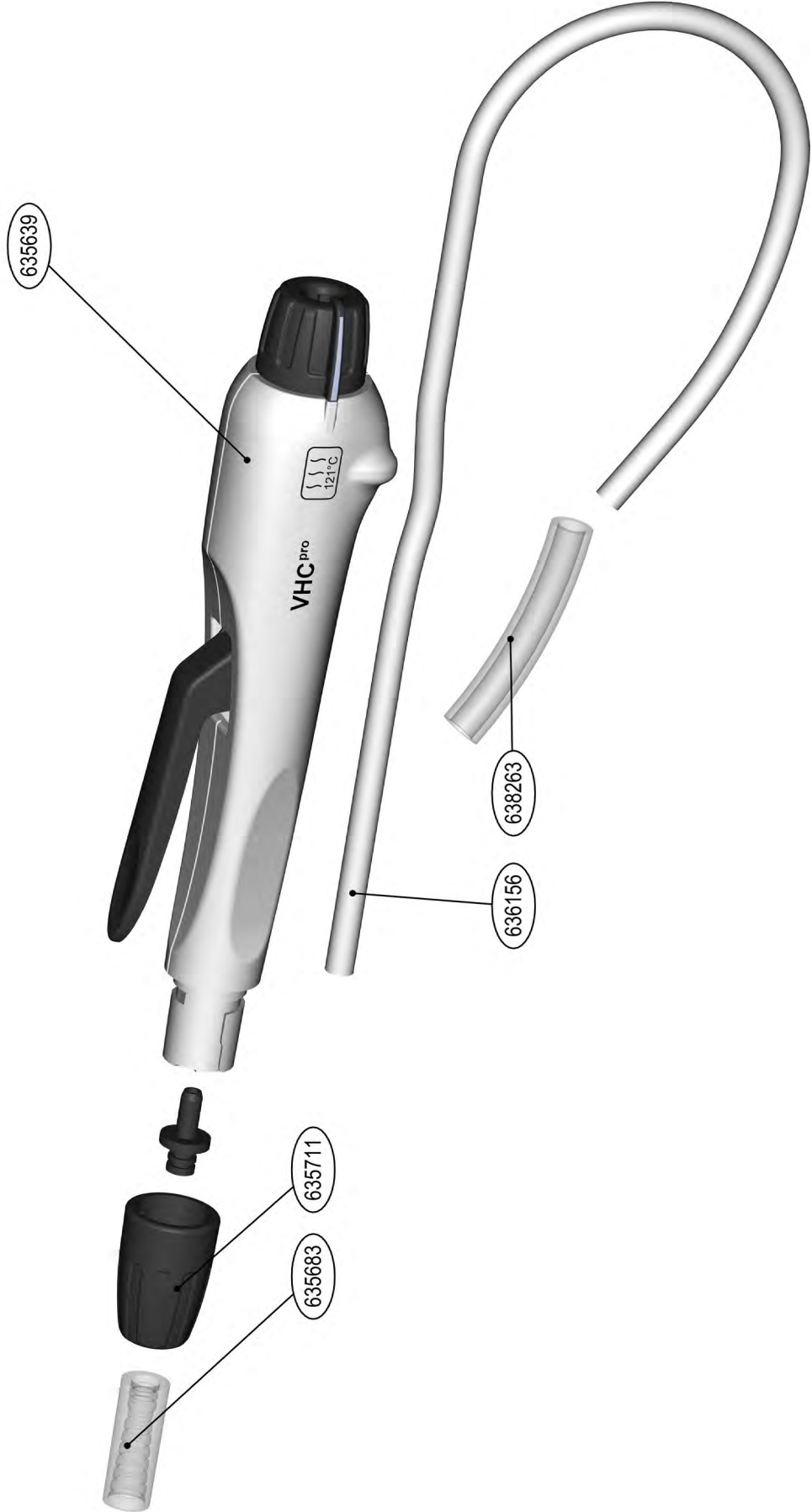
BVC basic



BVC control / professional



VHC PRO



8 Spare parts

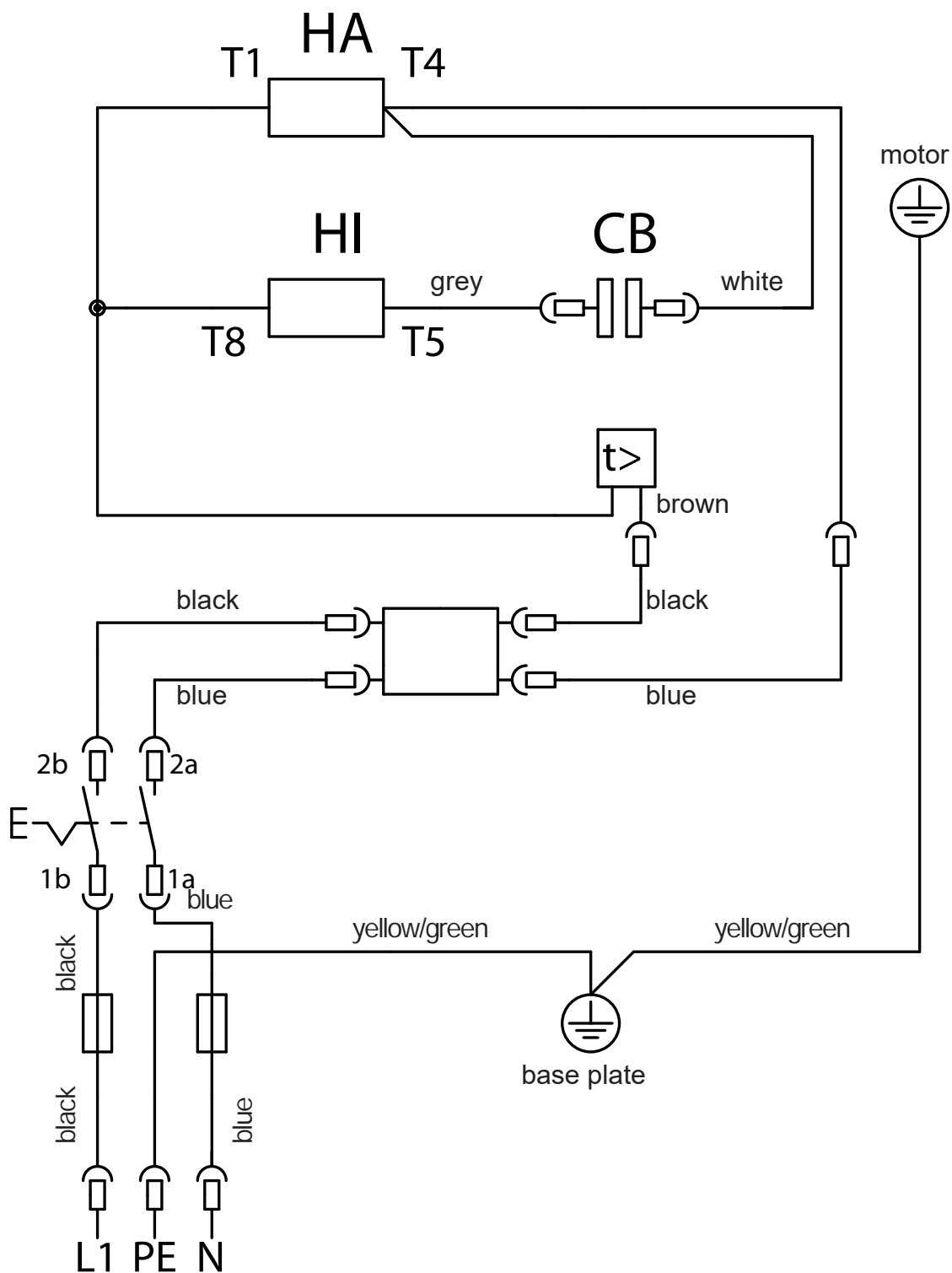
Bezeichnung	Designation	Désignation	
612408	Sicherung 5x20 2,5AT, Mindestbestellmenge 10 St.	Fuse 5x20 2,5AT, minimum order quantity 10 pcs.	Désignation Fusible 5x20 2,5AT, quantité minimum de commande est de 10 pièces
635619	Stempel mit Membrane	Plunger with diaphragm	Poussoir avec membrane
635639	VHCpro 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	VHCpro base, comme pièce de rechange, sans tuyau d'aspiration, sans adaptateurs, sans accessoires
635668	Blende BVC	Blind BVC	Couverture BVC
635683	Adapter für Pipetten	Adapter for pipettes	Adaptateur pour pipettes
635711	Schraubkappe für VHCpro	Screw cap for VHCpro	Bouchon fileté pour VHCpro
635741	Schlauch, Silikon, 12/6 mm	Hose, silicone, 12/6 mm	Tuyau, silicone, 12/6 mm
635744	Kondensator 2.5µF / 450V	Capacitor 2.5µF / 450V	Condensateur 2.5µF / 450V
635745	Kappe, geschlitzt	Cap, slotted	Couvercle, rainuré
635840	Linsenkopfschraube M4x10mm, Torx	Round head screw M4x10mm, Torx	Vis à tête bombée M4x10mm, Torx
635847	Gehäusedeckel Rückseite BVC	Housing cover rear side BVC	Couvercle de carter du revers BVC
635849	Durchführung G1/4-G1/4-10/8mm	Lead-through G1/4-G1/4-10/8mm	Passage G1/4-G1/4-10/8mm
635850	Stecker für Schnellkupplung	Plug for quick-coupling	Connecteur pour coupleur
635851	Schnellkupplung	Quick-coupling	Coupleur
635852	Schnellverschluss-Stecker BVC Professional	Quick-plug for BVC Professional	Connecteur rapide pour BVC Professional
635853	Schlauch, geformt, PTFE, 10/8 mm	Formed hose, PTFE, 10/8 mm	Tuyau modelé, PTFE, 10/8 mm
635860	Kappe	Cap	Couvercle
635871	Flasche 2L Glas, mit Schraubkappe unbearbeitet (ohne Filter, Schlauchanschluss, Blindstopfen)	Bottle 2L glass, with cap unmachined (w/o filter, connection for hose, blind plug)	Flacon collecteur en verre 2L, avec bouchon brute (sans filtre, raccord de tuyau, obturateur)
635872	Schlauch, gerade, PTFE, 10/8 mm für BVC	Hose, straight, PTFE, 10/8 mm for BVC	Tuyau plan, PTFE, 10/8 mm pour BVC
635872	Schlauch, gerade, PTFE, 10/8 mm für BVC, ein Schlauchende angeschrägt	Hose, straight, PTFE, 10/8 mm for BVC, one hose end bevelled	Tuyau plan, PTFE, 10/8 mm pour BVC
635874	Blende BVC	Cover BVC	Couvercle BVC
635883	Klebeschild ,BVC basic'	Adhesive label ,BVC basic'	Autocollant ,BVC basic'
635897	Schlauchwelle DN 3/5mm, Gewinde G1/4	Hose nozzle DN 3/5mm, thread G1/4	Embout cannelé DN 3/5mm, G1/4

635898	Gegenmutter G1/4	Counternut G1/4	Contre-écrou G1/4
635899	Durchführung G1/4-G1/4-10/8mm	Lead-through G1/4-G1/4-10/8mm	Passage G1/4-G1/4-10/8mm
635901	Druckfeder	Vane spring	Ressort pour palette
635909	Flaschenträger für 4l Flasche	Bottle support for 4l bottle	Support de bouteille pour bouteille 4l
635910	Spannplatte	Clamping plate	Griffe
635911	Gehäusedeckelinnenteil ME 1C/BVC	Housing cover insert ME 1C/BVC	Intérieur du couvercle de carter ME 1C/BVC
635912	Gehäusedeckel Vorderseite BVC	Housing cover front BVC	Couvercle de carter frontal BVC
636053	Flachkopfschraube M4x40mm, Torx	Oval head screw M4x40mm, Torx	Vis à tête cylindrique bombée M4x40mm, Torx
636056	Kondensator 6µF / 280V	Capacitor 6µF / 280V	Condensateur 6µF / 280V
636059	Spannscheibe	Clamping disc	Disque de serrage
636073	Lüfterflügel	Fan blade	Ailette de ventilateur
636075	Ein-/Ausschalter, blau	Main switch, blue	Interrupteur principal, bleu
636077	Toleranzring 10x6	Tolerance ring 10x6	Bague de tolérance 10x6
636156	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 mètr
636178	Ein- und Auslassventil D18, PTFE	Inlet and outlet valve D18, PTFE	Joint de clapet d'entrée et de sortie D18, PTFE
636232	Flachkopfschraube M4x12mm, Edelstahl, Torx	Oval head screw M4x12mm, stainless steel, Torx	Vis à tête cylindrique bombée M4x12mm, inox, Torx
636635	Schlauchwelle DN 6/10mm mit Rohransatz 10/8mm	Hose nozzle DN 6/10mm with tube 10/8mm	Embout cannelé DN 6/10mm
636764	Senkschraube M4x10mm, Edelstahl, Torx	Countersunk screw M4x10mm, stainless steel, Torx	Vis à tête fraisée M4x10mm, inox, Torx
636789	Schlauchschelle D 10,5	Hose clamp D 10.5	Collier de serrage pour tuyau D 10,5
637064	Winkelverschraubung 1/8 NPT	Threaded elbow joint 1/8 NPT	Raccord à vis coudé 1/8 NPT
637068	Verschlusskappe PTFE DN 10/8mm	Sealing cap PTFE DN 10/8mm	Bouchon de fermeture PTFE DN 10/8mm
637226	Ein- und Auslassventil D18, FFKM (Ersatz für Best.Nr. 637568)	Inlet and outlet valve D18, FFKM (replacement for cat.no. 637568)	Joint de clapet d' entrée et de sortie D18, FFKM (remplace réf. 637568)
637267	Membranzütscheibe 7,2mm, klein	Diaphragm support disc 7.2mm, small	Disque de support de membrane 7.2mm
637295	U - Scheibe A3,2	Plain washer A3,2	Rondelle A3,2
637319	Zylinderstift 2m6x10 A A2 EX LF ISO 2338	Zylindersstift 6x10mm	Cylindrical pin 6x10mm
637327	Kopfdeckel Chemiemembranpumpe (klein)	Head cover chemistry diaphragm pump (small)	Couvercle de tête pour pompe à membrane chimie (petite)

637344	Membranspannscheibe, klein	Clamping disc, small	Disque de tension de membrane
637464	Verschlusschraube G 1/4	Blanking screw G 1/4	Obtuteur G 1/4
637657	Rändelmutter M14x1 für Schlauchverschraubung 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
637658	Klemmring 10mm für Rändelmutter M14x1 (637657)	Locking ring 10mm for knurled nut M14x1 (637657)	Bague de serrage D10 pour écrou moleté M 14x1 (637657)
637748	Halbschale D40 POM	Half-shell D40 POM	Gouttière D40 POM
637749	Überwurfmutter M35x1,5mm	Union nut M35x1.5mm	Ecrou d'accouplement M35x1.5mm
637769	Membrane PTFE (klein)	Diaphragm PTFE (small)	Membrane PTFE (petite)
638246	Flasche 4L PP mit Schraubkappe un bearbeitet (ohne Filter, Schlauchanschluss, Blindstopfen)	Bottle 4L PP with cap, un machined (w/o filter, connection for hose, blind plug)	Flacon collecteur 4L en PP avec bouchon brute (sans filtre, raccord de tuyau, obturateur)
638263	Schlauch, Silikon, 9/6 mm	Hose, silicone, 9/6 mm	Tuyau, silicone, 9/6 mm
638264	Schutzfilter 64/0,2 hydrophob	Protection filter hydrophobic 64/0,2	Filter de protection hydrophobe 64/0,2
638456	Distanzscheibe 0,1mm	Shim 0.1mm	Rondelle 0,1mm
638509	Schlauchwelle DN 6/10mm, Gewinde G1/4	Hose nozzle DN 6/10mm, thread G1/4	Embout cannelé DN 6/10mm, G1/4
638545	Distanzscheibe 0,2mm	Shim 0.2mm	Rondelle 0,2mm
638547	Distanzscheibe 0,15mm	Shim 0.15mm	Rondelle 0,15mm
638552	VS-Dichtring G1/4	Bonded seal G1/4	Joint Usit G1/4
638555	Schlauch, PVC, 4,8/1,6 mm	Hose, PVC, 4.8/1.6 mm	Tuyau, PVC, 4,8/1,6 mm
638643	Steckfuß	Plug-in rubber foot	Pied caoutchouc insérable
638644	Schlauch, gerade, PTFE, 10/8 mm	Hose, straight, PTFE, 10/8 mm	Tuyau plan, PTFE, 10/8 mm
638836	Ein- und Auslassventil D24, FFKM	Inlet and outlet valve D24, FFKM	Joint de clapet d'entrée et de sortie D24, FFKM
639796	Überwurfmutter M14x1,5mm	Union nut M14x1.5mm	Ecrou raccord M14x1,5mm
639848	Toleranzring 12x12mm	Tolerance ring 12x12mm	Bague de tolérance 12x12mm
639853	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 soudé NPT 1/8, pour tuyaux PTFE DN 10/8mm
639900	Übergangsstück	Adapter	Adaptateur
639927	Gummipuffer	Rubber foot	Pied caoutchouc
696879	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

3110259	Linsensenschraube M5x12mm, Edelstahl	Round head countersunk screw M5x12mm, stainless steel	Vis à tête fraisée bombée M5x12mm, inox
3110641	Unterlegscheibe 6,4	Washer 6,4	Rondelle 6,4
3111274	Fächerscheibe A 3,2 verzinkt	Serrated lock washer A 3.2 galvanised	Rondelle éventail A 3,2 zinguée
3120549	O-Ring, 11mm x 2,5mm, FPM	O-ring, 11mm x 2.5mm, FPM	Joint torique, 11mm x 2,5mm, FPM

9 Circuit diagram

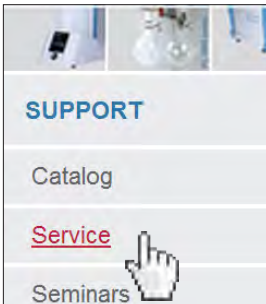


10 Service

Service range

Take advantage of the comprehensive service range of **VACUUBRAND GMBH + CO KG**.

Service in detail



- product guidance and practical solutions,
- fast delivery of spare parts and accessories,
- professional maintenance,
- immediate repairs processing,
- service on the spot¹,
- return, disposal.

⇒ For further information visit our website
www.vacuubrand.com.

10.1 Terms of service

Service, including notification of claim, repair order, calibration, or return, always requires the same steps to be taken for smooth handling.



⇒ Reduce downtime, speed up the handling. Keep the required data and documents ready when contacting the service department.

Advantage: Your order can be quickly and easily processed. A short description or photos may help for error location.

Returns Process

Meet the terms of service

1. Contact your local dealer or our service department².
2. Request a RMA number for your order.
3. Return your product including:
 - RMA number,
 - repair order,
 - short error description,
 - Health and safety clearance form.

1 -> Some services are not available in all areas.

2 -> Tel: +49 9342 808-5660, Fax: +49 9342 808-5555,
service@vacuubrand.com

10.2 Service requests

Contact

Service request
and service order

1. Contact your local dealer or our service department.
2. Inform us which service features you require.
3. Send us your service request providing the following information:
 - serial number and type from rating plate,
 - a short description of your request, e. g., error description for repair order, exchange etc..
 - Our service will provide you with a RMA number.
 - Clearance for return.

10.3 Return

Sending in

Send in your
product
(return)

1. Pack your product securely for transportation.
2. Mark the RMA number on the outside of the packaging.
3. Enclose the „Health and safety clearance from“, duly completed and signed by an authorized person.
4. Send in your product.



11 Health and safety clearance form

Health and safety clearance form



- 1. Device (Model):
- 2. Serial no.:
- 3. Reason for return / malfunction:
- 4. Substances (gases, liquids, solids, biological material, e. g. bacteria, viruses) in contact with the device / which have been pumped:
- 5. Risk level of the used biological material: none 1 2* 3** 4**
 * Contact the VACUUBRAND service absolutely before dispatching the device.
 ** Devices which have been in contact with biological substances of risk level 3 or 4 cannot be checked, maintained or repaired. Also decontaminated devices must not returned to VACUUBRAND due to a residual risk.
- 6. Radioactive contamination: yes no
- 7. Prior to return to the factory the device has been decontaminated: yes no
 Description of the decontamination method and the test / verification procedure:
- 8. All parts of the device are free of hazardous, harmful substances: yes no
- 9. Protective measures required for service staff:
- 10. If the paint is damaged, we wish a repaint or a replacement of parts for reason of appearance (repaint and replacement at customer's expense): yes no

11. Legally binding declaration

We assure for the returned device that all substances, which have been in contact with the device are listed in section 4 and that the information is complete and that we have not withheld any information. We declare that all measures - where applicable - have been taken listed in section "Repair - Maintenance - Return - Calibration". By our signature below, we acknowledge that we accept liability for any damage caused by providing incomplete or incorrect information and that we shall indemnify VACUUBRAND from any claims as regards damages from third parties. We are aware that as expressed in § 823 BGB (Public Law Code of Germany) we are directly liable for injuries or damages suffered by third parties, particularly VACUUBRAND employees occupied with handling/repairing the product. Shipping of the device must take place according to regulations.

Name: Signature:

Job title: Company's seal:

Date:

Release for repair grant by VACUUBRAND (date / signature):.....

VACUUBRAND GMBH + CO KG
 Alfred-Zippe-Straße 4
 97877 Wertheim - Germany

T +49 9342 808-5660 F +49 9342 808-5666
 E-Mail: service@vacuubrand.com
 www.vacuubrand.com

Manufacturer:

VACUUBRAND GMBH + CO KG
Alfred-Zippe-Str. 4
97877 Wertheim
GERMANY

Phone:

- Head office +49 9342 808-0
- Sales +49 9342 808-5550
- Service +49 9342 808-5660

Fax: +49 9342 808-5555
E-Mail: info@vacuubrand.com
Web: www.vacuubrand.com