



Technology for Vacuum Systems

**Decontamination
of**

- BVC basic**
- BVC basic G**
- BVC control**
- BVC control G**
- BVC professional**
- BVC professional G**
- VHC^{pro}**



After sales service: Contact your local dealer or call +49 9342 808-5500.

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☞ WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



NOTICE is used to address practices not related to personal injury.

Safety information!

IMPORTANT

In case of devices which have been in contact with biological substances of risk level 2 contact the VACUUBRAND service absolutely before shipping the device. These devices have to be completely disassembled and decontaminated by the user prior to shipment.

Do not return devices which have been in contact with biological substances of risk level 3 or 4. These devices cannot be checked, maintained or repaired. The devices must not returned to VACUUBRAND due to a residual risk in spite of decontamination.

The same conditions apply to on-site work.

This manual describes the decontamination of the aspiration systems BVC and the handle VHC^{pro}.

The applicability of the decontamination method and the selection of the appropriate disinfectants have to be ensured by the user.

Ensure that work is done only by an appropriately trained and supervised personal. Obey local and national safety requirements. Ensure that the personal is familiar with the safety procedures which relate to the products processed by the pumping system. Ensure that the device is decontaminated before repair and that you take adequate precautions to protect people from the effects of hazardous substances if contamination has occurred.

WARNING



☞ Take adequate precautions to protect people from the effects of dangerous substances. Wear appropriate personal protective equipment (e. g., protective clothing, safety glasses, protective gloves) and perform work in a hood.

Prior to decontamination **isolate equipment from mains**. Allow sufficient cooling. **Ensure that the device cannot be operated accidentally.**

Wait 5 seconds before starting work to allow the capacitors to discharge.

NOTICE

Before starting check that the required parts (e. g. tools, disinfectants) are available and of the correct type.

Check the operating sequence mentally on feasibility, safety requirements and consequences on safety and function of the equipment.

Obey regulations when disposing of solvents and **chemicals**.

In order to comply with law (occupational, health and safety regulations, safety at work law and regulations for environmental protection) vacuum pumps, components and measuring instruments returned to the manufacturer can be repaired only when certain procedures (see section **"Repair - Maintenance - Return - Calibration"**) are followed.

Scrapping and waste disposal

Dispose of the pump and any components removed from it safely in accordance with all local and national safety and environmental requirements.

Materials

NOTICE

To facilitate the selection of a compatible disinfectant the materials of the devices are listed.

For information about the compatibility with the materials, ask the manufacturer of the disinfectant.

Surfaces	Material*
BVC basic / G	
Support	coated stainless steel
Valve block	PA, PTFE, PP, PPS, POM, ETFE, aluminium alloy
Feet	NBR
BVC control / G // BVC professional / G	
Support, cover pump	PBT
Pump housing, base plate	aluminium alloy
On / off switch	PC, EPTR
IEC plug	PET
Feet	PU
Screws	stainless steel
Touchpanel	glass
Liquid level sensor foil (only BVC professional / G)	PET

* see also section materials „**Filter and bottles**“

Filter and bottles	Material
Filter	
Diaphragm	PTFE
Housing	PP
Tubing	silicone rubber
Collection bottle 4l	
Bottle / screw cap	PP
Hose nozzle at bottle head (connection VHC ^{pro})	PP
Hose in bottle	PTFE
Hose nozzle (connection filter)	PPS, glass fibre reinforced
Counter nut	PP
Closing screw	PPS, glass fibre reinforced

We reserve the right for technical modifications without prior notice!

continued „Filter and bottles“

Collection bottle 2I	
Bottle	borosilicate glass
Cap insert	PP
Flat seal	EPDM
Hose nozzle at bottle head (connection VHC ^{pro})	PP
Hose in bottle	PTFE
Hose nozzle (connection filter)	PPS, glass fibre reinforced
Closing screw	PPS, glass fibre reinforced

Vacuum pump	Material
Pump	
Cover	PBT
Housing cover insert	PTFE, carbon reinforced
Head cover	ETFE, carbon fibre reinforced
Diaphragm clamping disc	ETFE, carbon fibre reinforced
Diaphragm	PTFE
Valve	PTFE / FFKM
Inlet	ETFE
Outlet	ETFE
Silencer	silicone rubber
Sensor	PPS / fuorosilicone
Sensor tube	PTFE / PVC

VHC^{pro}	Material
Aspiration hose	Silicone rubber
Adapter pipettes	TPE / PP
Adapter pipette tips	PP
Screw cap, adjusting knob, operating lever	PPS, glass fibre reinforced
Housing	PP, glass fibre reinforced

We reserve the right for technical modifications without prior notice!

Decontamination of the vacuum pump

Important information

IMPORTANT

Devices may be contaminated due to operation.

The vacuum pump of the BVC may be contaminated as well. The protective filter with a pore size of 0.2 µm does not avoid safely a contamination of the vacuum pump in all cases.

Also in case of a defect of the filter or operation of the BVC without filter pathogenic germs (e. g., bacteria, viruses, prions, fungi) may enter the pump.

Prior to decontamination the devices have to be disassembled.

When disassembling the devices avoid contact of contaminated parts with not contaminated parts.

Adopt suitable measures to prevent the release of dangerous, toxic, explosive, corrosive, noxious or polluting fluids, vapors and gases and a possible contamination of personal and environment.

Prior to decontamination clean with a damp cloth if necessary. Use water or a mild detergent as cleaning agent.

Decontaminate all disassembled parts and the used tools using an appropriate degassing method. Comply with exposure time.

The applicability of the decontamination method and the selection of the appropriate disinfectant have to be ensured by the user.

After decontamination perform an **appropriate verification procedure**, e. g., use contact plates in order to control disinfecting measures.

Enclose an evidence of verification of the decontamination stating the detection method with the device.

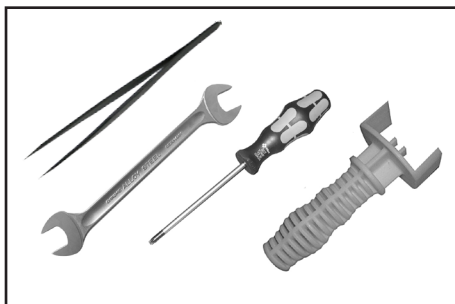
After decontamination return the device disassembled for repair. Ensure that all parts are packed safely.

Disassembling the BVC control / professional



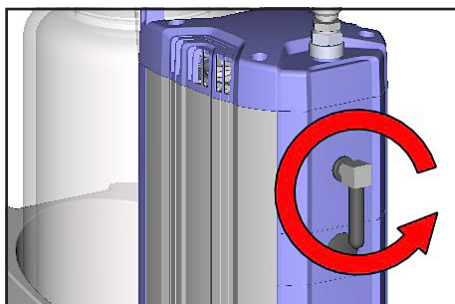
IMPORTANT

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

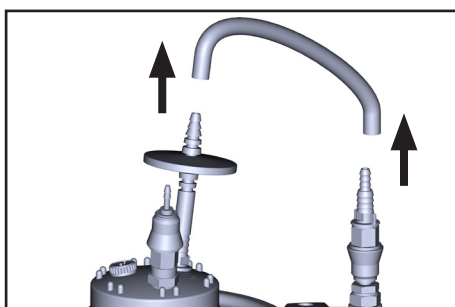


Tools required (metric):

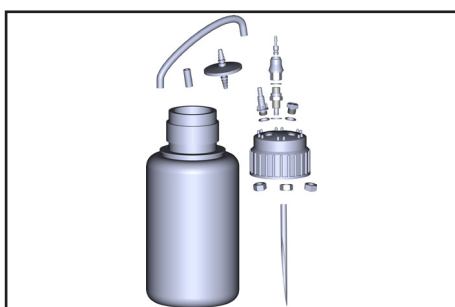
- Diaphragm key SW 46 (order no.: 637777)
- Screw driver Torx TX20
- Open-ended wrench SW 19
- Tweezers



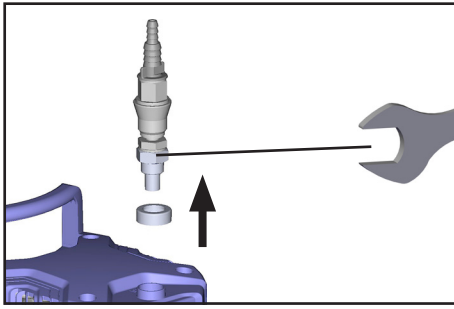
- ➔ Unscrew elbow fitting with silencer at the outlet of the pump.



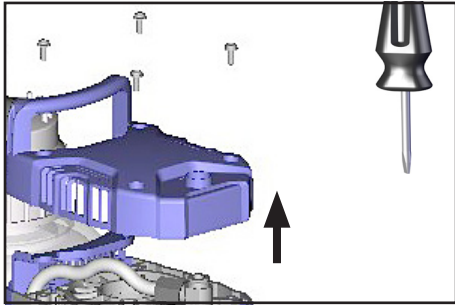
- ➔ Depending on BVC version, remove connection tubing at the hose nozzle or detach quick coupling.
- ➔ Remove bottle from support.



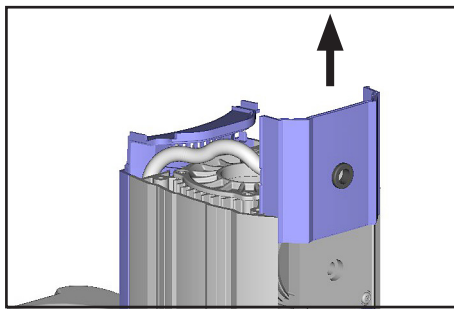
- ➔ Dismantled bottle into individual components.



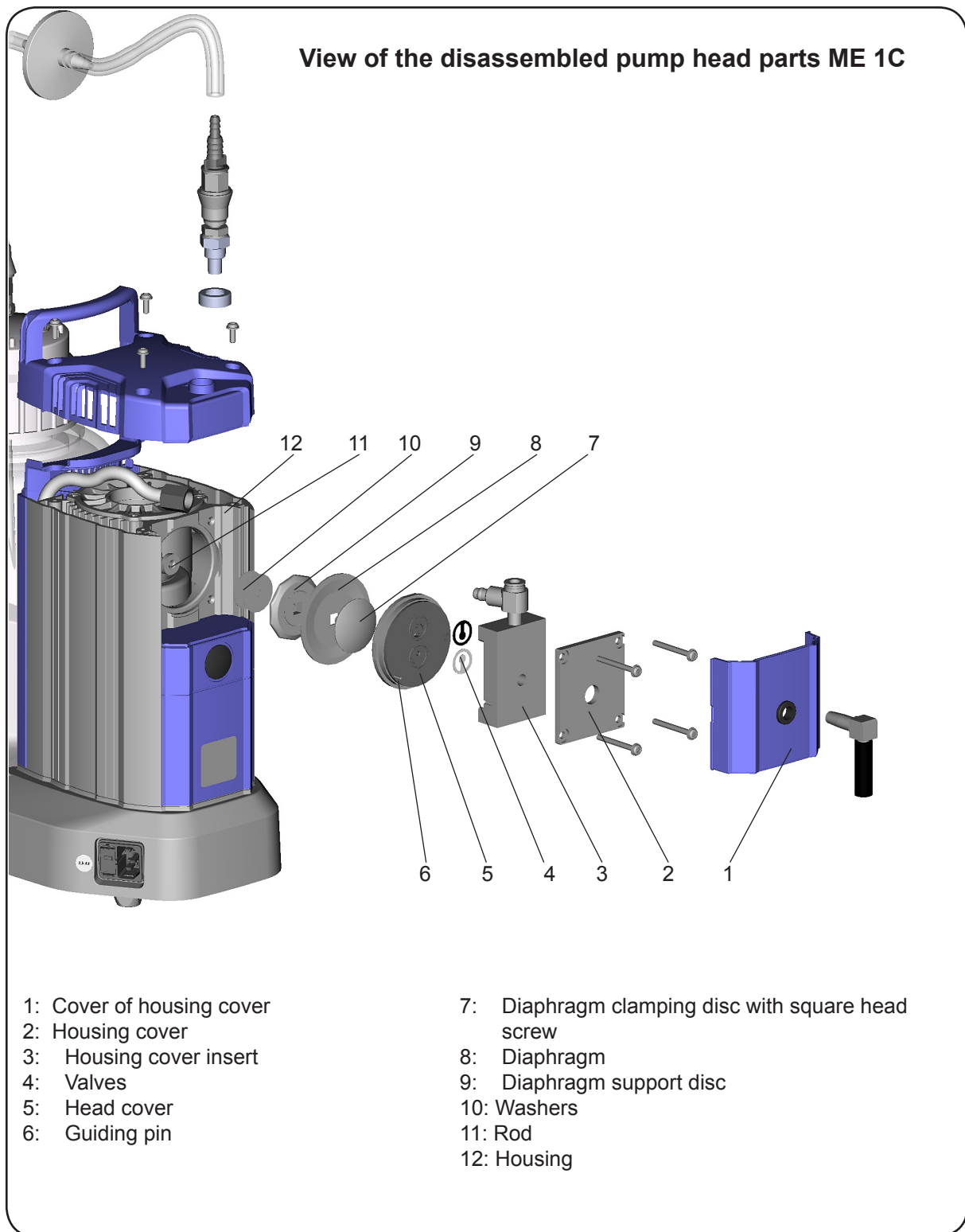
- Unscrew hose nozzle, or hose nozzle with coupling, using an open-ended wrench.

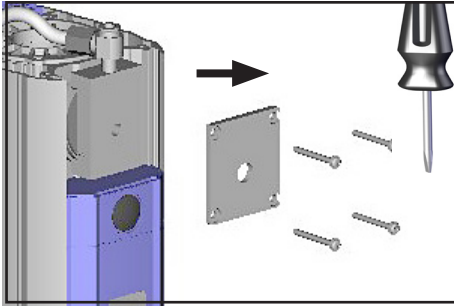


- Unscrew cover, paying attention to washers.

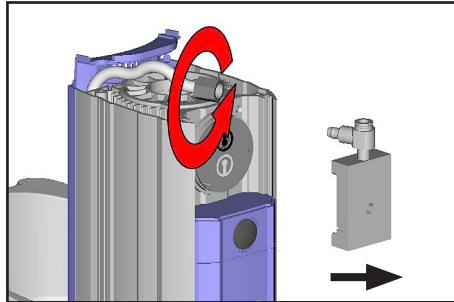


- Remove the cover of the housing cover from the housing.

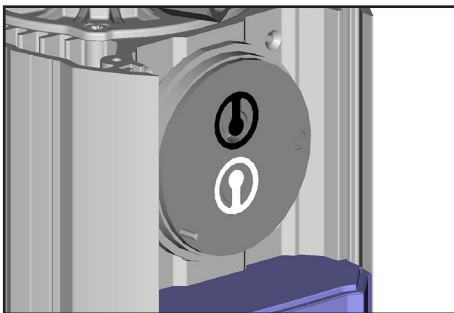




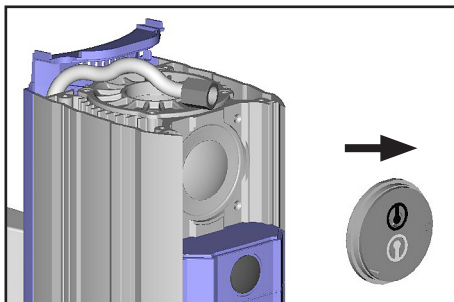
- Unscrew four screws at the pump head, paying attention to washers.
Remove housing cover.



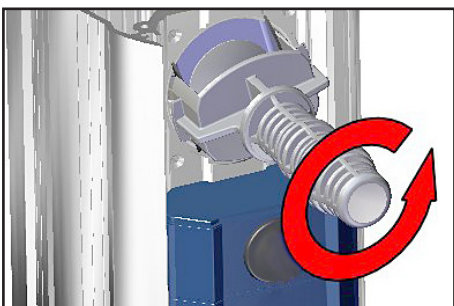
- Unscrew union nut and remove hose from elbow fitting.
- Remove housing cover insert with elbow fitting.



- Note position of valves.



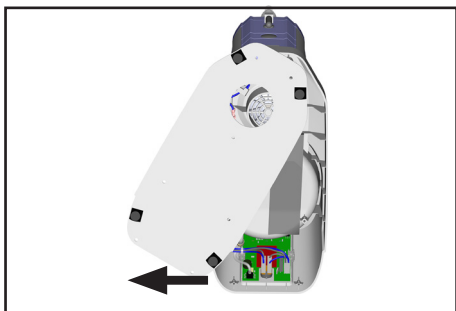
- Remove head cover and valves.
- ⚠ Never remove parts by using a pointed or sharp-edged tool (e.g., screw driver), we recommend to use a rubber mallet or compressed air (to be blown carefully into port).



- Lift diaphragm carefully sidewise.
- ⚠ Never use a pointed or sharp-edged tool to lift the diaphragm.
- Use the diaphragm key to grip the diaphragm support disc below the diaphragm.
- Press down the diaphragm clamping disc to bring the diaphragm to its lowest oscillating position. Unscrew diaphragm support disc with diaphragm and diaphragm clamping disc.
- ⚠ If the diaphragm is difficult to separate from the diaphragm support disc, immerse assembly in naphtha or petroleum ether. Do not inhale vapors!



- ➔ Lay down the BVC as shown in the figure.
- ➔ Unscrew screws at the base plate.

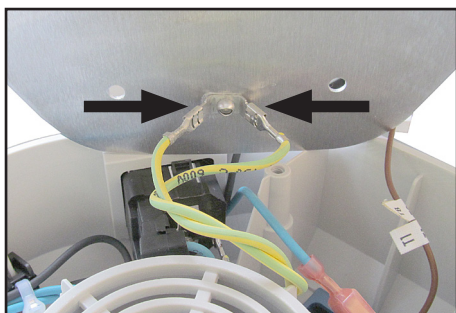


- ➔ Slide the base plate to the side.

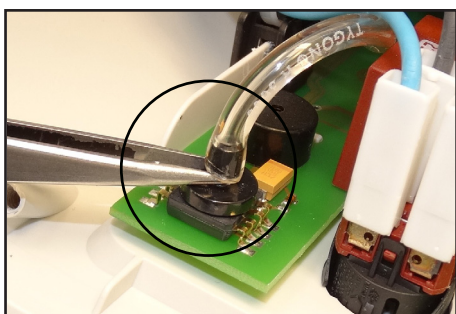


IMPORTANT

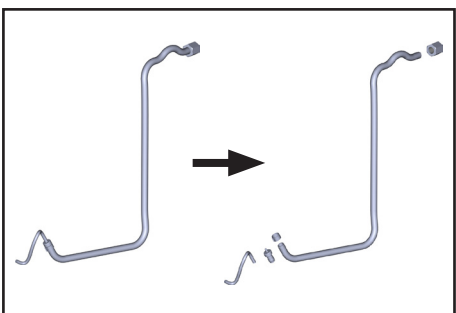
Connect person to ground before coming in contact with electronic parts.



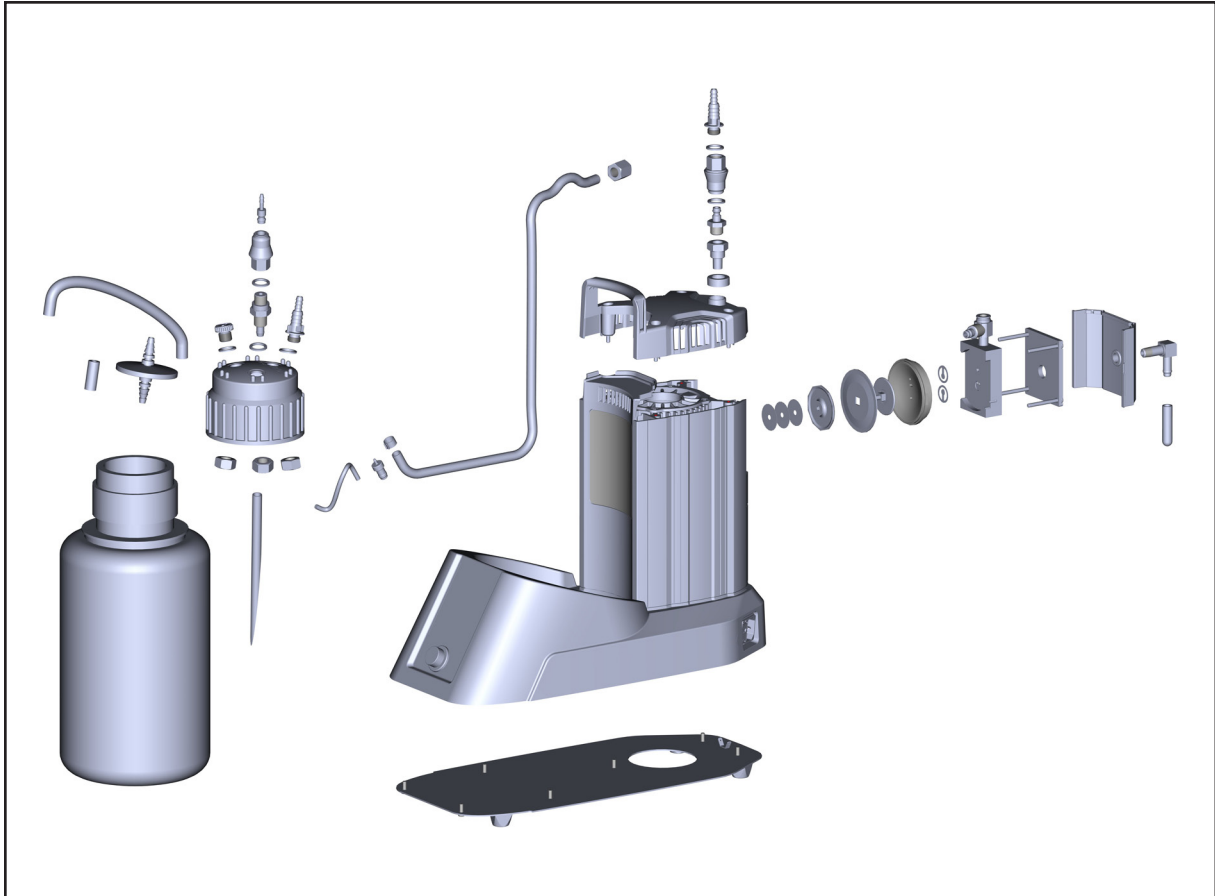
- ➔ Remove earth cables.



- ➔ Remove hose from pressure sensor using tweezers.

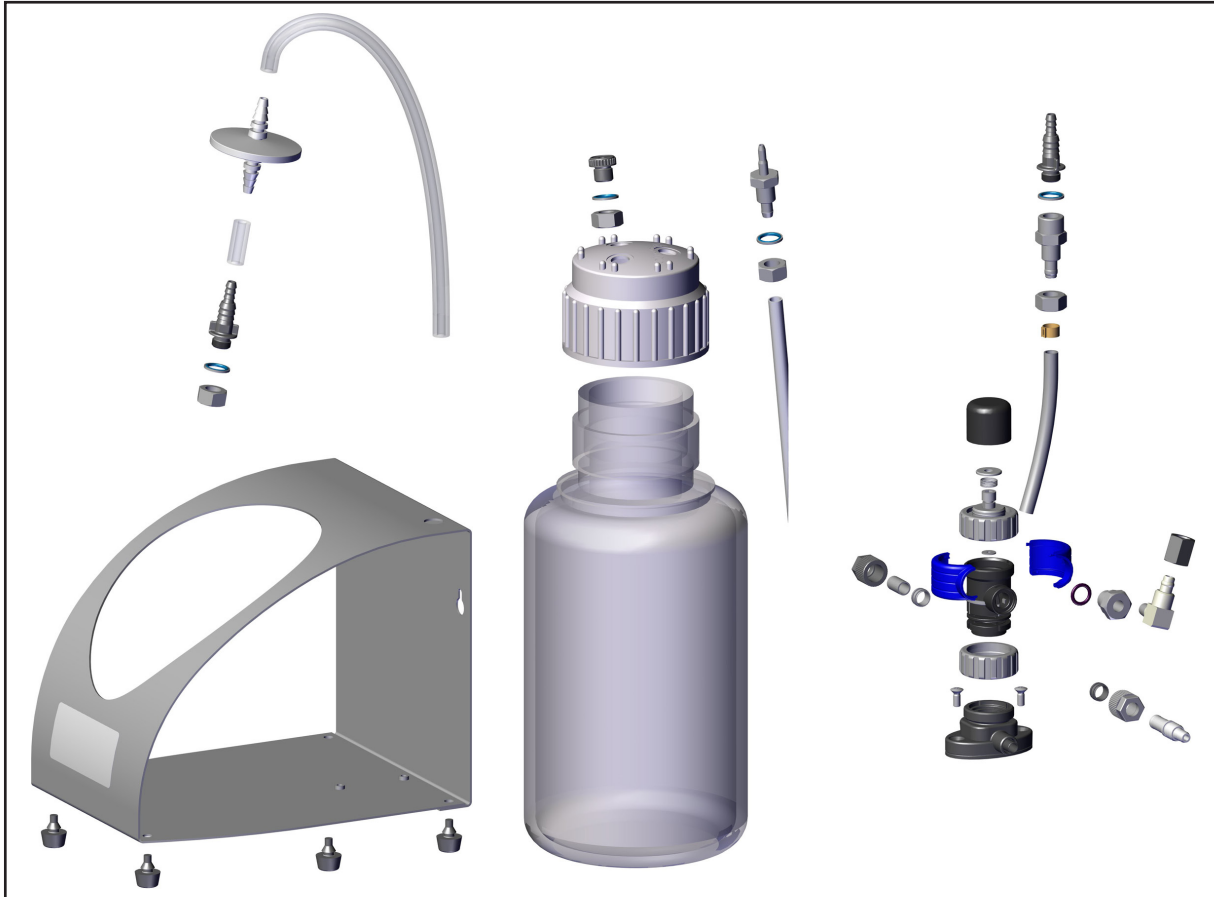


- ➔ Remove sensor hose and dismantled into individual components.

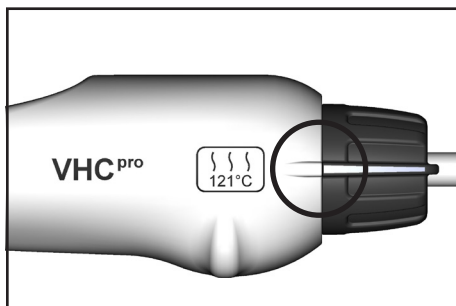


Disassembling the BVC basic

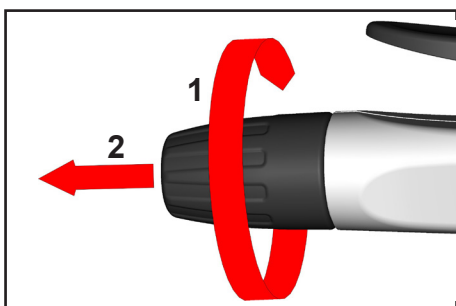
Disassemble the BVC basic into individual components as shown in the figure.



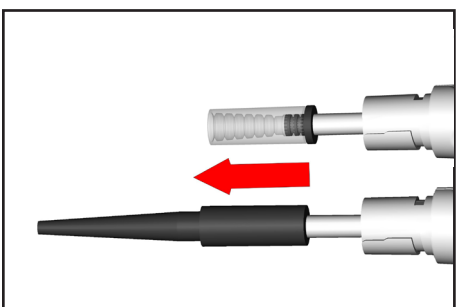
Disassembling the VHC^{pro}



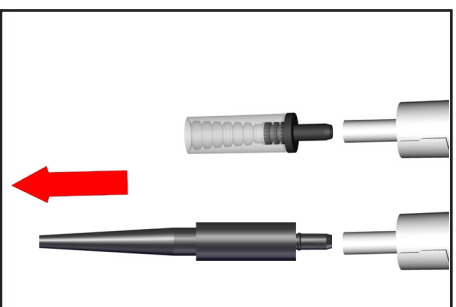
➔ Select continuous aspiration.



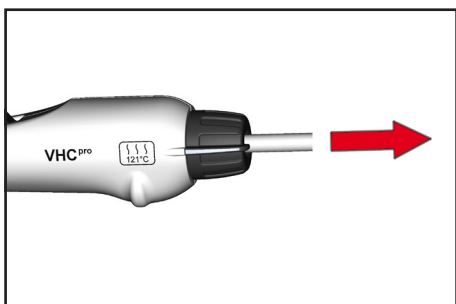
➔ Turn cap (1) and remove (2).



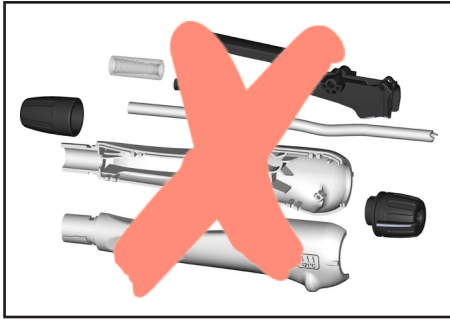
➔ Pull adapter with hose out of the VHC^{pro}.



➔ Remove adapter from hose.

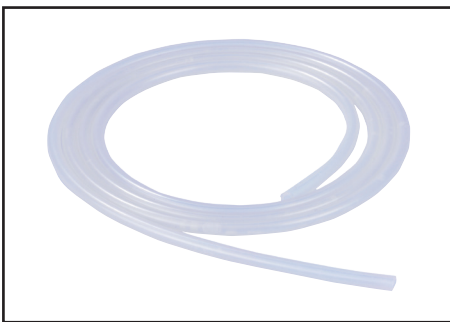


➔ Pull aspiration hose out of the handle.



NOTICE

It is not possible to disassemble the VHC^{pro} completely.



IMPORTANT

Do not return the aspiration hose.



Repair - Maintenance - Return - Calibration

IMPORTANT

Every employer (user) is held responsible for the health and safety of his employees. This also applies to service personnel performing repair, maintenance, return or calibration.

The **health and safety clearance form** informs the contractor about any possible contamination of the device and forms the basis for the risk assessment.

In case of devices which have been in contact with biological substances of risk level 2 contact the VACUUBRAND service absolutely before dispatching the device. These devices have to be completely disassembled and decontaminated by the user prior to shipment. Do not return devices which have been in contact biological substances of risk level 3 or 4. These devices cannot be checked, maintained or repaired. Also decontaminated devices must not returned to VACUUBRAND due to a residual risk.

The same conditions apply to on-site work.

No repair, maintenance, return or calibration is possible unless the correctly completed health and safety clearance form is returned. Devices sent are rejected if applicable. Send a completed copy of the **health and safety clearance form** to us in advance. The declaration must arrive before the equipment. Enclose a second completed copy with the product.

Remove all components from the device that are no original VACUUBRAND components. VACUUBRAND will not be responsible for lost or damaged components that are no original components.

Drain the device completely of fluids and residues. Decontaminate the device.

Close all openings airtight especially if using substances hazardous to health.

To expedite repair and to reduce costs, please enclose a detailed description of the problem and the product's operating conditions with every product returned.

If you do not wish a repair on the basis of our **quotation**, the device may be returned to you disassembled and at your expense.

In many cases, the components must be cleaned in the factory prior to repair.

For cleaning we use an environmentally friendly water based process. Unfortunately the combined attack of elevated temperature, cleaning agent, ultrasonic treatment and mechanical stress (from pressurised water) may result in damage to the paint. Please mark in the health and safety clearance form if you wish a repaint at your expense just in case such a damage should occur. We will also replace parts for cosmetic reasons at your request and at your expense.

Before returning the device

Pack the device properly, if necessary, please order original packaging materials at your costs.

Mark the package completely

Enclose the completed health and safety clearance form.

Notify the carrier of any possible contamination if required.

Scrapping and waste disposal

Dispose of the equipment and any components removed from it safely in accordance with all local and national safety and environmental requirements. Particular care must be taken with components and waste oil which have been contaminated with dangerous substances from your processes. Do not incinerate fluoroelastomer seals and O-rings. You may authorize us to dispose of the equipment **at your expense**. Otherwise we return the device at your expense.

Health and safety clearance form

1. Device (Model):
2. Serial no.:
3. Reason for return / malfunction:
4. Has the device been used in a copper process step (e.g., semiconductor production): yes no
5. Substances (gases, liquids, solids, biological material, e. g. bacteria, viruses) in contact with the device / which have been pumped:
.....
.....
.....
6. 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.
7. Radioactive contamination: yes no
8. Prior to return to the factory the device has been decontaminated: yes no
Description of the decontamination method and the test / verification procedure:
.....
.....
9. All parts of the device are free of hazardous, harmful substances: yes no
10. Protective measures required for service staff:
.....
11. 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

12. Legally binding declaration

We assure for the returned device that all substances, which have been in contact with the device are listed in section 5 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):.....
Protective measures: Protective gloves, safety goggles Hood External cleaning

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