

*vacuubrand*

# Technology for Vacuum Systems

## Instructions for use



**BVC basic**  
**BVC basic G**

**After sales service:**

**Contact your local dealer or call +49 9342 808-5500.**

**Trademark index:**

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# Contents

<b>Safety information!</b>	<b>4</b>
Important information!	4
General information	6
Intended use	6
Setting up and installing the system	7
Ambient conditions	7
Operation conditions	8
Safety during operation	8
Maintenance and repair	11
<b>Technical data</b>	<b>12</b>
Wetted parts	13
System parts	14
<b>Use and operation</b>	<b>16</b>
First steps: Installation	16
During operation	17
Filtration	18
Filter and collecting bottle	19
<b>Cleaning and decontaminating</b>	<b>21</b>
<b>Assembling of components</b>	<b>24</b>
Replacing the filter	24
Assembling a second VHC <sup>pro</sup> connection set	25
Assembling quick coupling bottle - pump unit	26
Quick coupling sets	27
<b>Accessories - spare parts</b>	<b>28</b>
<b>Troubleshooting</b>	<b>30</b>
<b>Repair - Maintenance - Return - Calibration</b>	<b>31</b>
<b>Health and safety clearance form</b>	<b>33</b>
<b>EC Declaration of Conformity of the Machinery</b>	<b>34</b>
<b>China RoHS</b>	<b>35</b>

# Safety information!

## *Important information!*

### **WARNING**

-  **Keep this manual complete and accessible to personnel at all times!**
-  **Read this manual carefully before installing or operating the equipment. Observe the instructions contained in this manual.**
-  **Do not modify the equipment without authorization.**

### **NOTICE**

**This manual is an integral part of the equipment described therein. It describes the safe and proper use of the vacuum pump.**

**Make operating personnel aware of dangers arising from the pump and the pumped substances.**

**VACUUBRAND disclaims any liability for inappropriate use of these pumps and for damage from failure to follow instructions contained in this manual.**

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 applicability of the guidance in this manual with respect to his product.

Manual-no.: 999263/ 07/07/2017

**The following signal word panels and safety symbols are used throughout this manual:**



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury and death.



➡ DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



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



• CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



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

### Formatting used in this manual:

**Note:** The signal word panels in all sections of this manual always refer to all paragraphs of the same format (➡ / ☞ / • / plain text) following each signal word panel.

**The document "Safety information for vacuum equipment" is part of this manual! Read the "Safety information for vacuum equipment" and observe the instructions contained therein!**

## ***General information***

### **⚠ WARNING**

- ☞ Read and comply with this manual before installing or operating the equipment.
- ☞ Before operating the equipment read and comply with the section "Cleaning and decontamination"!

### **NOTICE**

Remove all packing material, remove the product from its packing-box, remove the protective covers from the inlet and outlet ports and keep, inspect the equipment.

If the equipment is damaged, notify the supplier and the carrier in writing within three days; state the item number of the product together with the order number and the supplier's invoice number. Retain all packing material for inspection.

**Do not use the equipment if it is damaged.**

## ***Intended use***

### **⚠ WARNING**

- ☞ The system and all system parts are not to be used on humans or animals.
- ☞ Prevent any part of the human body from coming in contact with the vacuum.
- ☞ Comply with notes on correct vacuum and electrical connections, see section "Use and operation".
- ☞ The systems are designed for **ambient temperatures** during operation between +10°C and +40°C. Check the maximum temperatures.

### **NOTICE**

Ensure that the equipment and all components are suitable for the **intended application**. Use the system only for aspiration of liquids and for filtration.

## ***Setting up and installing the system***

### **CAUTION**

- Comply with **maximum permissible pressures** and pressure differences; see section "Technical data". Do not operate the pumping unit with overpressure at the inlet or outlet.

### **NOTICE**

Provide a firm level platform for the equipment. Ensure a stable position of the equipment. Ensure that hose connections are mechanically stable.

Connect the BVC basic and BVC basic G to a suitable vacuum supply (vacuum pump, local vacuum network VACUU•LAN®).

The diameter of the an outlet tubing should be at the least as large as the diameter of the pump connections.

Comply with all **applicable and relevant safety requirements** (regulations and guidelines), **implement the required actions and adopt suitable safety measures**.

## ***Ambient conditions***

### **WARNING**

- ☞ Pay attention to the **permissible maximum ambient temperatures** (see "Technical data").

### **NOTICE**

To the best of our knowledge the equipment is in compliance with the requirements of the applicable EC-directives and harmonized standards (see "Declaration of conformity") with regard to design, type and model, especially directive DIN EN 61010-1. This directive gives, in detail, conditions, under which the equipment can be operated safely (see also IP degree of protection).

## Operation conditions



- ➔ The devices have no approval for operation in or for pumping of potentially explosive atmospheres.
- ➔ The devices are **not suitable** to pump:
  - **unstable substances** and substances which react explosively under **impact** (mechanical stress) and/or when being exposed to **elevated temperatures** without air,
  - **self inflammable** substances,
  - substances which are **inflammable without air** and
  - **explosive substance**
- ➔ The devices have **no approval** for operation below ground.



- ☞ The devices are **not suitable** for suction of dust.



- **Take into consideration interactions and chemical reactions of used media.**  
Ensure that the materials of the wetted parts are compatible with the pumped substances, see section "Technical data".

## Safety during operation



- ➔ Avoid interactions of the media in the collection bottle absolutely.  
Comply with material safety data sheets and notes on safe use of the manufacturer.  
**Do not mix incompatible disinfectants and/or incompatible reagents / solvents as well as unknown substances.**



## For example sodium hypochlorite (chlorine bleach)

Incompatible chemicals and agents	Possible results of mixing with sodium hypochlorite (chlorine bleach)
Acids or acidic compounds (e. g. hydrochloric acid, aluminium chloride)	Release of chlorine gas
Ammonia containing compounds (e. g. ammonium hydroxide, quarternary ammonium salts)	Formation of explosive compounds, release of chlorine gas and other hazardous gases
Organic chemicals (e. g. solvents, polymers, amines, oils)	Formation of chlorinated organics, release of chlorine gas and other hazardous gases
Metals (e. g. copper, iron) Hydrogen peroxide	Release of oxygen, overpressure, rupture of a closed system
Reducing agents (e. g. sodium thiosulfate)	Production of heat, boiling
Guanidine salts (e. g. guanidine hydrochloride, guanidine thiocyanate)	Release of toxic gases, e. g. chlorine, chloramine, hydrogen cyanide

- ➡ Avoid the formation of dangerous reactions / gases in the BVC, especially in the collection bottle. If this is impossible dispose of dangerous gases at the outlet of the pump appropriately.



- ➡ Adopt suitable measures to prevent the release of dangerous, toxic, explosive, corrosive, noxious or polluting fluids, vapors and gases. In such cases, install an appropriate collecting and disposal system and take protective action for pump and environment.
- ➡ If the equipment is used in combination with **hazardous materials** (e. g., in **medical-microbiological laboratories**) check all relevant safety and health requirements and determine the applicability of regulatory limitations prior to use if necessary.

- ➡ Use appropriate safety work materials and methods if necessary, e. g., steam sterilization, sterilization indicators or germicides. For notes concerning the sterilization of wetted parts, see the “Technical Data” section and “Cleaning and decontaminating”. It is the user’s responsibility to ensure effective sterilization.



- ☞ Check the collecting bottle regularly for cracks. Do never use a collecting bottle with cracks nor expose it to vacuum.
- ☞ Comply with applicable regulations when disposing of chemicals. Take into consideration that chemicals may be polluted. Take adequate precautions to protect people from the effects of dangerous substances (chemicals, thermal decomposition products of fluoroelastomers), wear appropriate safety-clothing and safety glasses.
- ☞ Use only **OEM spare parts and accessories**; otherwise safety and performance of the equipment as well as the electromagnetic compatibility of the equipment might be reduced.  
The CE mark or the cTUVus mark (see rating plate) may become void if original equipment manufacturer parts are not used.
- ☞ In case of leaks in the manifold, aspirated substances might be released into the environment. Comply especially with notes on operation and use and maintenance.
- ☞ Due to the residual **leak rate of the equipment**, there may be an exchange of gas, albeit extremely slight, between the environment and the vacuum system. Adopt suitable measures to prevent contamination of the pumped substances or the environment.

**⚠ CAUTION**

- Use the system only in combination with the integrated hydrophobic filter (sterilizable) to protect equipment and environment (people).

**NOTICE**

**Maximum liquid level in collecting bottle:** approx. 80%, depending on the application. (When working with low-boiling liquids, or liquids that tend to foam, the maximum liquid level might be reduced).

### ***Maintenance and repair***

**⚠ DANGER**

- ➡ Attention: The equipment might be contaminated with noxious or otherwise dangerous process chemicals that have been pumped during operation. Ensure that the equipment is decontaminated before maintenance.

**⚠ WARNING**

- ☞ Take adequate precautions to protect people from the effects of dangerous substances if contamination has occurred. Wear appropriate safety-clothing when you come in contact with contaminated components.

- ☞ Never operate a defective or damaged device.

**NOTICE**

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.

# Technical data

Type		BVC basic BVC basic G
Vacuum control		mechanical vacuum controller
Maximum switch on pressure (vacuum controller)	Torr (mbar)	375 (500)
Minimum switch off pressure (vacuum controller)	Torr (mbar)	112 (150)
Minimum hysteresis (vacuum controller)	Torr (mbar)	37 (50)
Maximum permissible inlet pressure (absolute)	psi (bar)	16 (1.1)
Maximum permissible outlet pressure (absolute)	psi (bar)	16 (1.1)
Maximum permissible difference pressure between inlet and outlet	psi (bar)	16 (1.1)
Permissible ambient temperature storage / operation	°F (°C)	14 to 140 / 50 to 104 (-10 to +60 / +10 to +40)
Permissible relative atmospheric moisture during operation (no condensation)	%	30 to 85
Maximum media temperature continuous operation short time (< 5 minutes)	°F (°C) °F (°C)	104 (40) 176 (80)
Inlet connection		hose nozzle DN 3/5mm
Connection vacuum supply		hose nozzle DN 6/10 mm / PTFE tubing 8/10 mm
Hydrophobic filter Type Manufacturer Nominal pore diameter		Midisart® 2000 Sartorius Stedim 0.2 µm
Degree of protection IEC 529		IP 54
Volume collection bottle	gal (l)	1 (polypropylene) / 0.5 (borosilicate glass) (4 (polypropylene) / 2 (borosilicate glass))
Dimensions L x W x H approx. BVC basic BVC basic G	in (mm)	9.9 x 7.9 x 19.3 (250 x 200 x 490) 9.1 x 7.1 x 17.0 (230 x 180 x 430)
Weight approx.	lbs. kg	6.2 (2.8)

**We reserve the right for technical modifications without prior notice!**

## Wetted parts

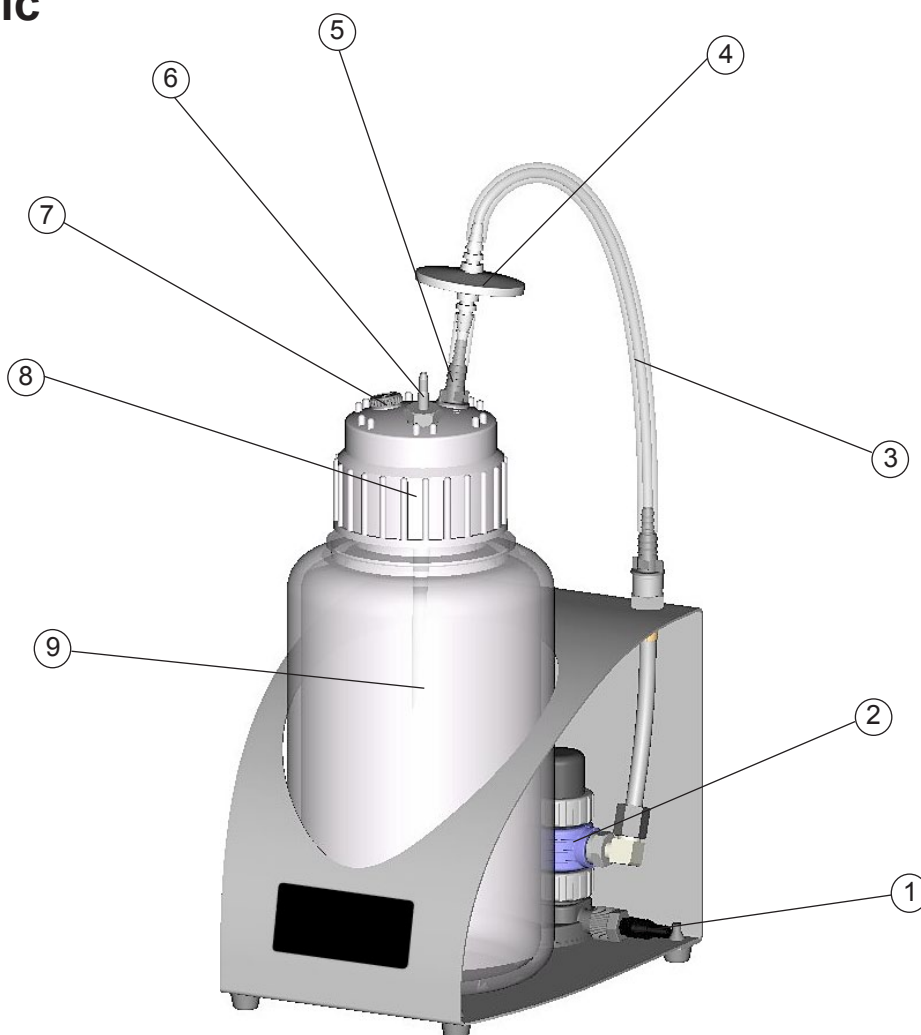
Components	Wetted materials
<b>System</b>	
Hose nozzle (to vacuum supply)	PP
Valve block	PPS glass fibre reinforced
closing cap	PTFE
Valve	FFKM
Diaphragm	FFKM
Flat seal	FFKM
O-ring / seal ring	FPM
Transition piece	PP
Elbow fitting	ETFE
Hose	PTFE
Lead through (metal support)	PP
Hose nozzle (on metal support)	PPS glass fibre reinforced
Connection hose (before and behind filter)	silicone rubber
<b>Filter</b>	
Diaphragm	PTFE
Housing	PP
<b>Collecting bottle (BVC basic)</b>	
Bottle / screw cap	PP
Hose nozzle at bottle head	PP
Tubing in bottle	PTFE
Hose nozzle (connection filter)	PPS glass fibre reinforced
Transition piece	PP
Counter nut	PP
Closing screw	PPS glass fibre reinforced
<b>Collecting bottle (BVC basic G)</b>	
Bottle	borosilicate glass
Cap insert	PP
Flat seal	EPDM
Hose nozzle at bottle head	PP
Tubing in bottle	PTFE
Hose nozzle (connection filter)	PPS glass fibre reinforced
Closing screw	PPS glass fibre reinforced

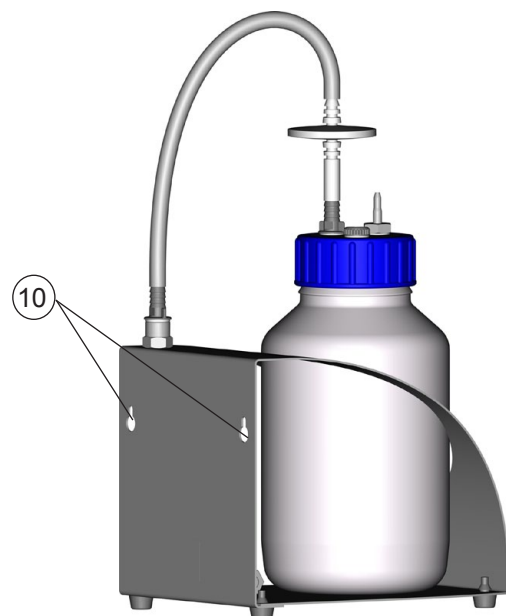
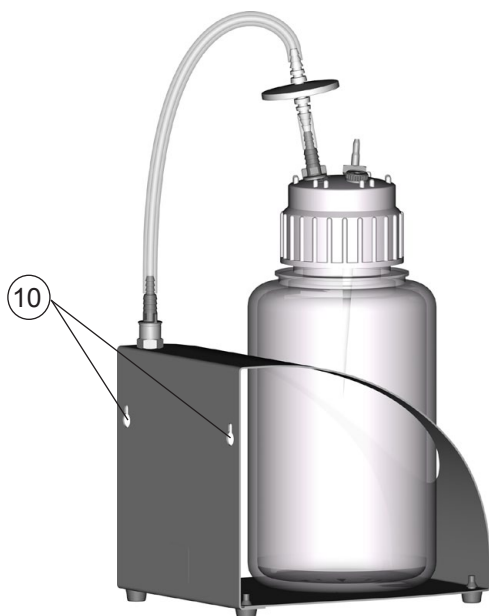
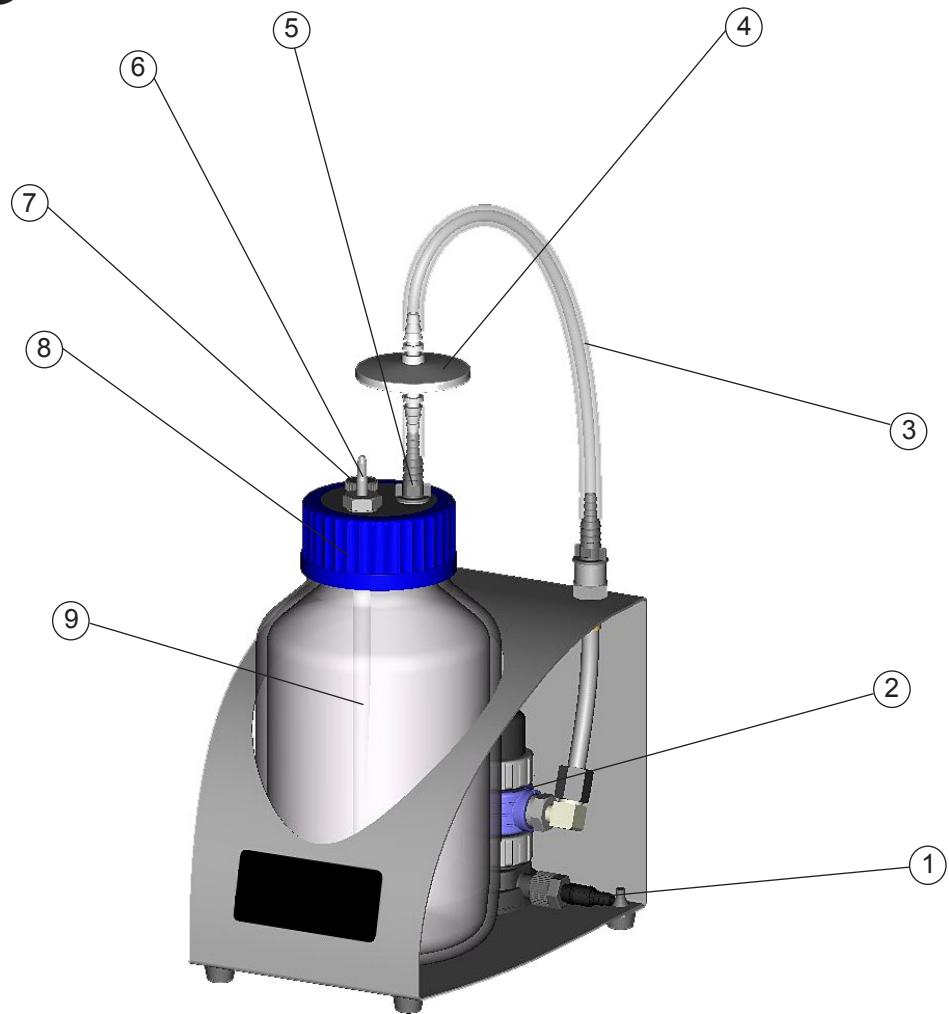
**We reserve the right for technical modifications without prior notice!**

## System parts

Position	Designation
1	Connection vacuum supply
2	Vacuum controller
3	Connection tubing
4	Hydrophobic filter
5	Connection filter
6	Connection handle
7	Closing screw (optional: connection second VHC <sup>pro</sup> )
8	Screw cap / bottle cap with cap insert
9	Collecting bottle
10	Bore for wall mounting

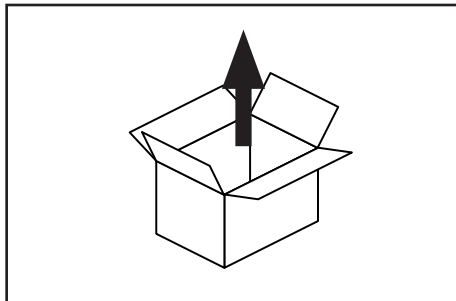
### BVC basic



**BVC basic G**

# Use and operation

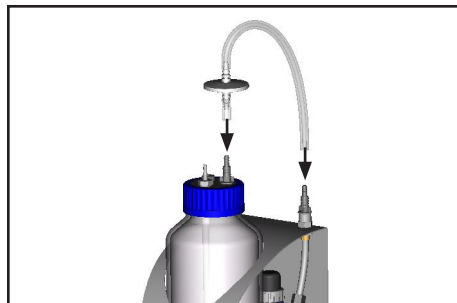
## First steps: Installation



Unpack the equipment.



Read and comply with the document **"Safety information for vacuum equipment - Sicherheitshinweise für Vakuumgeräte"**!



Assemble tubing with filter.



Setting up the BVC.

Assemble connection to the vacuum supply via rubber tubing or PTFE tubing.

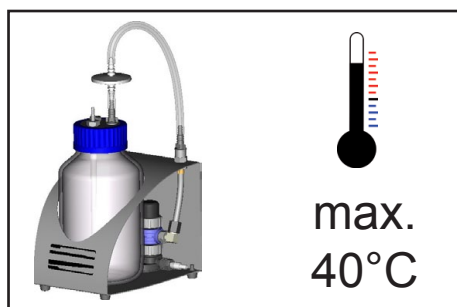
Install an appropriate separator between BVC and vacuum supply if necessary.



Attach tubing of the VacuuHandControl VHC<sup>pro</sup> to the hose nozzle of the bottle head.

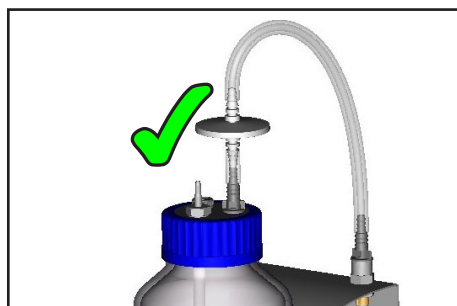


## During operation



### ⚠ WARNING

☞ **Max. ambient temperature: 40 °C**



### ⚠ CAUTION

- Use the system only with the **integrated hydrophobic filter** to protect the vacuum supply from aspirated liquids and aerosols, and to protect the environment/user from contamination risk.

### NOTICE

The mechanical vacuum control provides the vacuum in the bottle in a range of 150 mbar (minimum switching off pressure) to 500 mbar (maximum switching on pressure) for aspiration. At the end of the operation, aspirate all liquids out of the aspiration tubing and rinse with a cleaning agent or disinfectant if necessary.

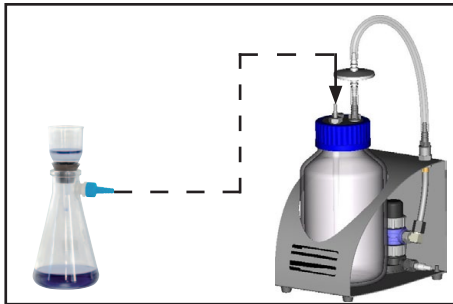
An integrated non-return valve avoids backflow from the vacuum supply to the BVC basic / BVC basic G. This helps avoid contamination of the BVC with media that may be inside the vacuum supply.

When separating the device from the vacuum supply, the non-return valve avoids venting of the collecting bottle.

The aspiration system doesn't feature an air admittance valve. If the collecting bottle is under vacuum, the existing underpressure inside the bottle remains until the vacuum is reduced (pressure rises) by further aspiration.

Attention: Removing the connection tubing from the screw cap, the filter or from the inlet of the vacuum controller leads to immediate venting of the collecting bottle!

## *Filtration*



Connect the suction flask to the bottle head.

## Filter and collecting bottle

### NOTICE

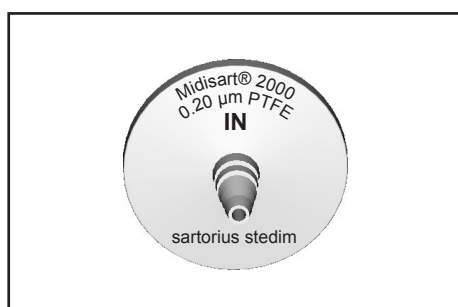
The hydrophobic filter retains water and aqueous solutions also in the form of aerosols. When using solvents or due to evaporation of water, formation of condensate at the outlet of the BVC is possible.

### WARNING

☞ **Important:** Comply with applicable regulations when disposing of solvents.

☞ **Attention:** Do not remove connections in case of liquid in the tube. Do not touch contaminated parts when removing the screw cap. Risk of infection! Wear appropriate protective clothing, e.g., gloves.

## Filter

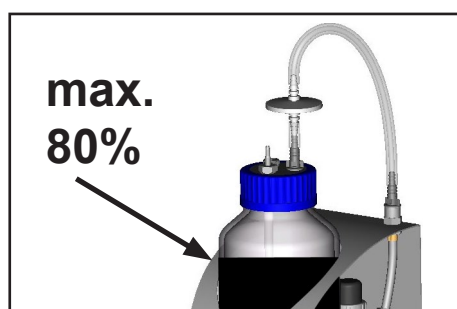


Change filter if necessary in case of contamination, weak aspiration or no aspiration.

☞ Use only the original spare part (see section Accessories - spare parts and sterilize and dispose of the filter according to appropriate regulations.

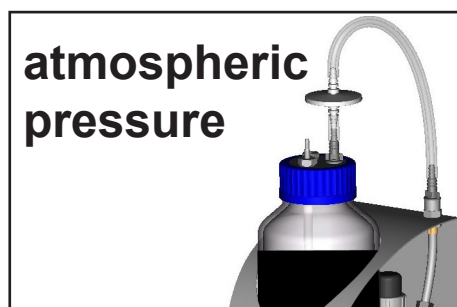
**Note:** After disinfection with alcohol, allow the filter to dry completely because the filter may become clogged by alcohol.

## Emptying the collecting bottle

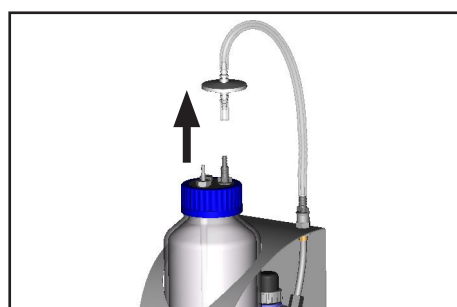


Check liquid level in the collecting bottle regularly.

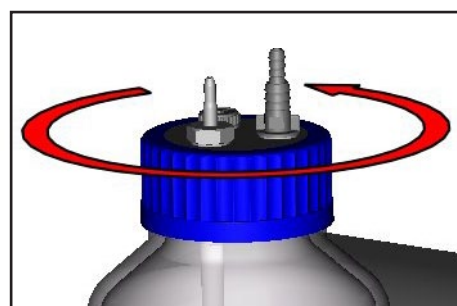
**Maximally admissible liquid level in collecting bottle:** approx. 80 %, depending on the application. (In case of low boiling liquids or in case of suction of liquids which tend to foam, the admissible liquid level might be reduced.)



Vent the system.



Remove the connecting tube from the filter, isolate connections in case.



Remove screw cap from the collecting bottle.



Remove bottle from the support.

Sterilize and dispose of collected liquid according to appropriate regulations.

# Cleaning and decontaminating



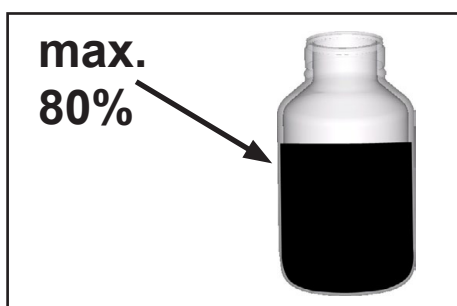
## Autoclaving

The collecting bottle with bottle head and screw cap, the quick coupling and the filter are designated for steam sterilization at 121°C and 2 bar absolute (1 bar overpressure). Time of exposure according to DIN 58946  $t_e = 20$  minutes.

## NOTICE

**Prior to autoclaving loosen or remove the bottle head from the bottle.**

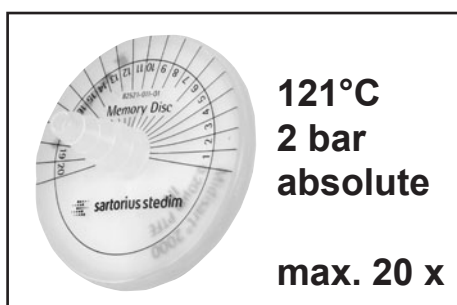
It is the user's responsibility to ensure effective autoclaving.



## NOTICE

## Autoclaving

**Maximum liquid level in collecting bottle: 80%.** When working with low boiling liquids or liquids that tend to foam, the maximum liquid level may be less.



The number of autoclaving cycles can be marked on the plastic disc (Memory Disc) of the filter (max. 20 autoclaving cycles according to the manufacturer instruction).

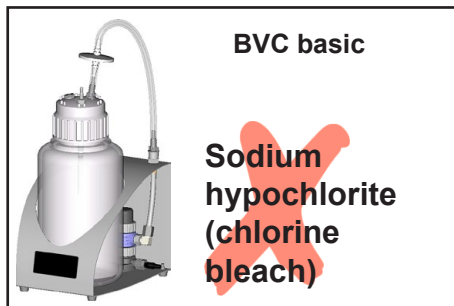
## NOTICE

UV disinfection is permitted but may lead to discoloration of the plastic parts.

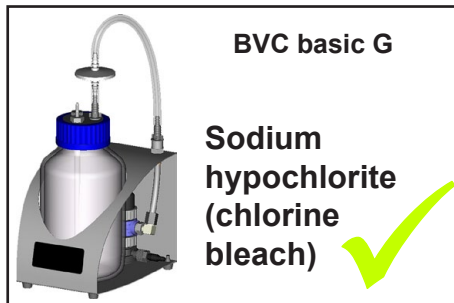
Attention: UV disinfection acts only at the surface.

**NOTICE**

Over time, discoloration and material changes (e.g., resiliency, elasticity/tightness, cracking) due to repeated steam sterilizations may occur.

**Important notes on use of disinfectants**

Aggressive disinfectants which release chlorine or oxygen radicals, e.g., sodium hypochlorite (chlorine bleach) or peroxide compounds can corrode the material of the 4l polypropylene collecting bottle and other components (e. g., couplings). This may lead to stress cracks and breakage of the 4l polypropylene bottle.



☞ Therefore, prolonged use of these disinfectants in the 4l polypropylene bottle is strongly discouraged. After brief disinfecting operations in the bottle, rinse bottle thoroughly to avoid leaving residues of disinfectant in the bottle.

➡ Alternative: Use of the BVC basic G with 2l borosilicate glass bottle.

Attention: The quick-coupling accessory sets between the pumping unit and VHC<sup>pro</sup> are not suitable for use with sodium hypochlorite (chlorine bleach).

**! CAUTION**

- ☞ Using corrosive disinfectants may result in damage, malfunction and/or failure of the equipment.
- ☞ Chlorine permeates the hydrophobic filter on top of the collecting bottle and may damage the materials of the equipment or the vacuum supply.
- ☞ Leaking of liquid from a damaged collecting bottle or suction tube may lead to exposure of personnel and material or to damage/destruction of wetted equipment or laboratory furniture.

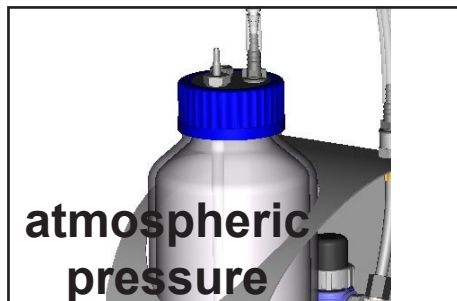


The use of the disinfectant **Sekusept® Plus** (Manufacturer: Ecolab GmbH & Co OHG, Düsseldorf, Germany) in extensive in-house testing did not cause any damage to the collecting bottle. Hence the disinfectant Sekusept® Plus - even when used in the collecting bottle during suction - is preferred to chlorine bleach. Comply with use and safety instructions of the manufacturer!

- ☞ Even if using disinfecting solutions **after termination of the suction** it is absolutely necessary to assure the compatibility of disinfectant and the parts to be disinfected.
- ☞ For information about the compatibility with the materials of the pumping unit, ask the manufacturer of the disinfectant.
- ☞ The wetted materials of the system are listed in the section "Technical data".

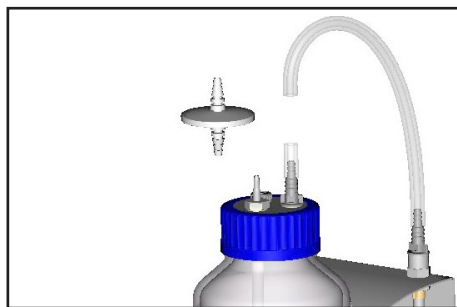
# Assembling of components

## Replacing the filter

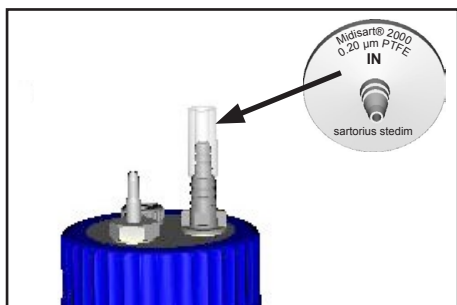


Vent the system.

Ensure that there is no liquid in the tube to avoid risk of contamination.



Remove connecting tube from the filter. Remove the filter from the piece of tube at the hose nozzle.



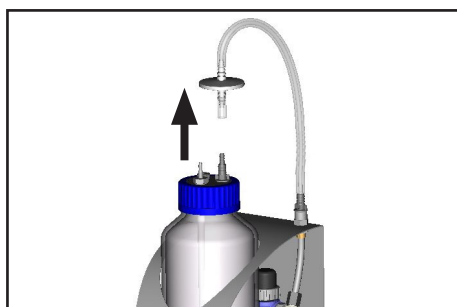
Attach new filter.

Observe flow direction. Position filter with the printed side "IN" towards the bottle.

Attach the connecting tube.

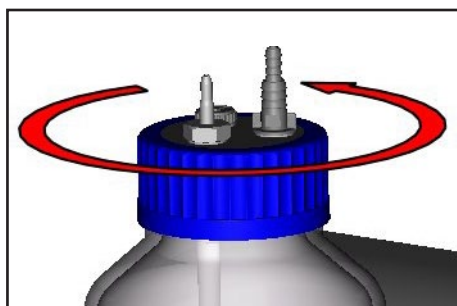


## Assembling a second VHC<sup>pro</sup> connection set (with / without coupling) or conversion to quick coupling VHC<sup>pro</sup> - bottle

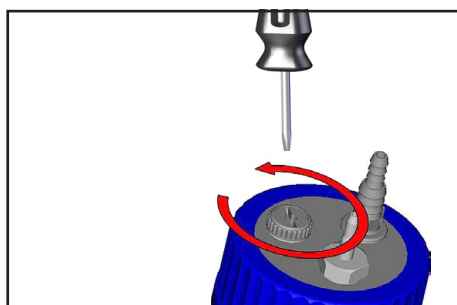


Empty bottle.  
Decontaminate equipment if necessary.

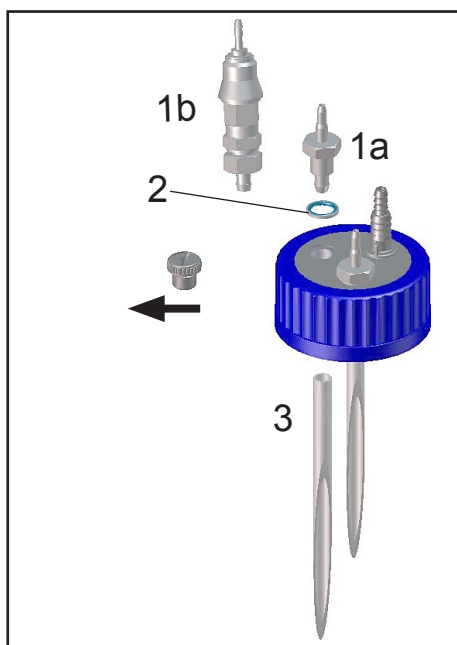
Remove filter with connection hose from bottle head.



Remove screw cap from the collecting bottle.



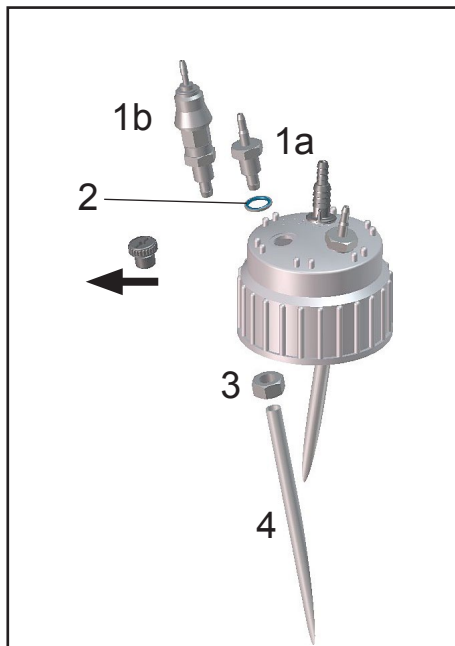
Unscrew closing screw.  
Only BVC with polypropylene bottle: Remove counter nut inside the screw cap.



### BVC with glass bottle

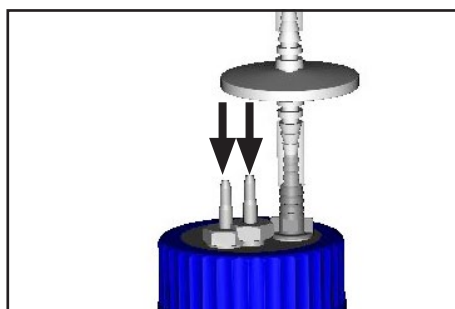
Screw hose connection (1a) with seal ring (2) or coupling (1b) with seal ring (2) into the screw cap.

Assemble hose (3) under the screw cap to the lead through.



## BVC with polypropylene bottle

Insert hose connection (1a) with seal ring (2) or coupling (1b) with seal ring (2) in the screw cap. Assemble hose (4) under the screw cap to the lead through and secure lead through with counter nut (3).



Screw screw cap to bottle.

Assemble filter.

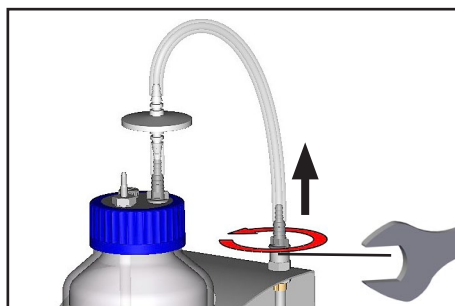
Assemble VHC<sup>pro</sup>.

## Assembling quick coupling bottle - pump unit (extension set)

**Attention:** The extension set “Quick coupling bottle - pump unit” is designated for two different extension versions. Therefore the set consists of parts, which may not be necessary in the individual case.

Redundant parts are not credited by VACUUBRAND.

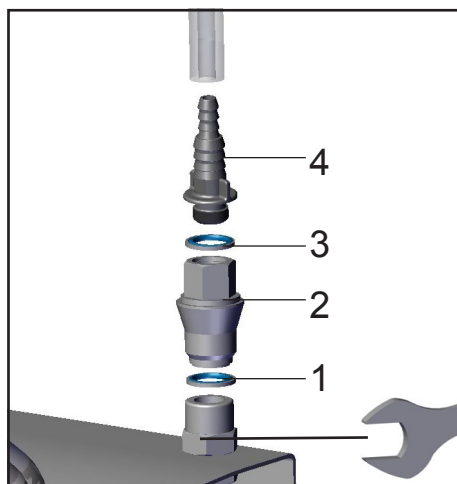
## Assembling to support connection



Remove hose.

Disassemble hose nozzle.

Hold counter piece with open-ended wrench size 19 mm.

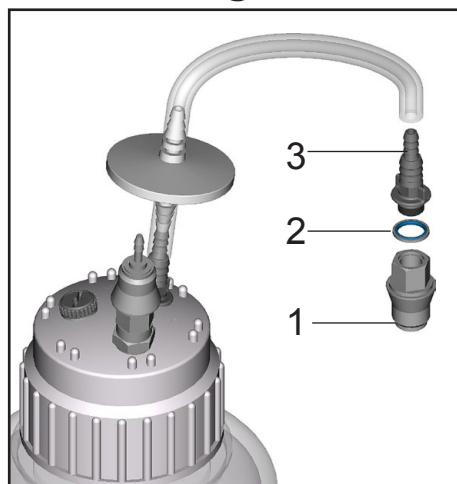


Assemble coupling (2) with seals (1, 3) and hose nozzle (4).

Hold counter piece with open-ended wrench size 19 mm.

Connect hose.

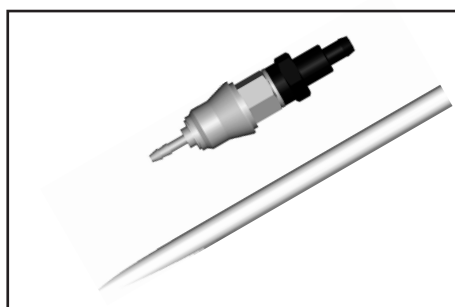
### Assembling to an additional bottle



Assemble coupling part (1) with seal (2) and hose nozzle (3).

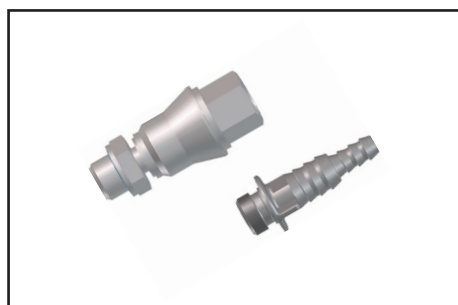
Connect tubing.

## Quick coupling sets



### Quick coupling set: VHC<sup>pro</sup> to bottle

Quick coupling made of PVDF, with adapter to connect a VHC<sup>pro</sup> to a collection bottle. When disconnected, the collection bottle closes vacuum tight.



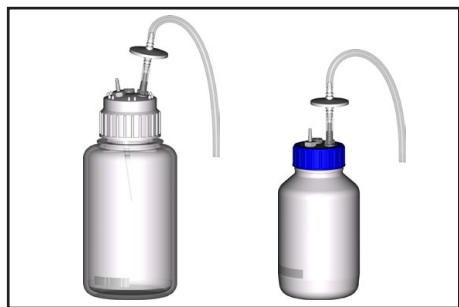
### Quick coupling set: Bottle to pump unit

Quick coupling made of PVDF, to connect a collection bottle to a BVC basic / basic G. When disconnected, the collection bottle closes vacuum tight.

## NOTICE

Attention: The quick-coupling accessory sets between the pumping unit and VHC<sup>pro</sup> are not suitable for use with sodium hypochlorite (chlorine bleach).

# Accessories - spare parts



**Collection bottle 4L, made of PP,**  
with protection filter and inlet tube.....**635810**

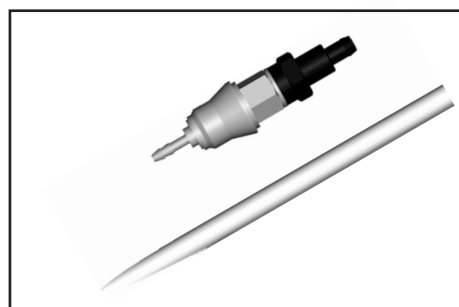
**Collection bottle 2L glass, coated,**  
with protection filter and inlet tube.....**635809**

*Attention: Please order quick-couplings separately!*



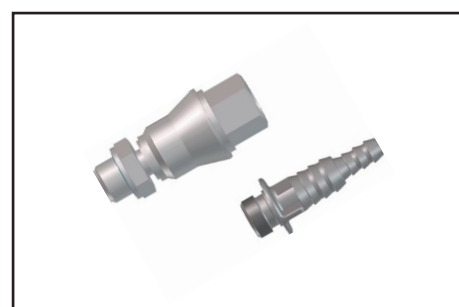
**Bottle 4L PP, with cap unmachined**  
(w/o filter, connection for hose, blind plug).....**638246**

**Bottle 2L glass, with cap unmachined**  
(w/o filter, connection for hose, blind plug).....**635871**



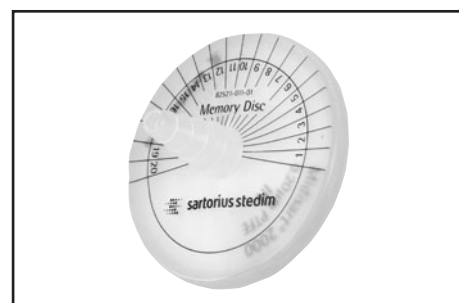
**Set of quick-coupling for connection**  
**VHC<sup>pro</sup>-bottle including adapter and**  
**inlet tube** .....**635807**

Attention: The quick-coupling accessory sets between the pumping unit and VHC<sup>pro</sup> are not suitable for use with sodium hypochlorite (chlorine bleach).



**Set of quick-coupling for connection**  
**bottle to pump** .....**635808**

Attention: The quick-coupling accessory sets between the pumping unit and VHC<sup>pro</sup> are not suitable for use with sodium hypochlorite (chlorine bleach).



**Protection filter with connection hoses**.....**638266**

**Silicone hose 12/6 mm (length in cm)**.....**635741**



**VacuuHandControl VHC<sup>pro</sup> .....688061**

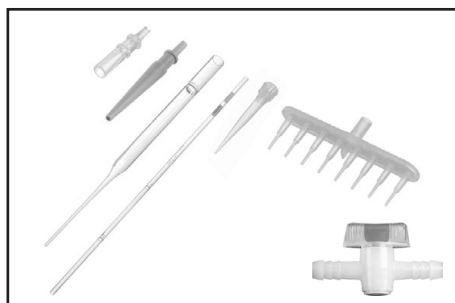
**Spare hose for VHC<sup>pro</sup> .....636156**  
(minimum order quantity 2 m)

**Silicone hose 9/6 mm (length in cm).....638263**  
(bend protection)

**Extension kit second VHC<sup>pro</sup> connection .....699943**  
(to be assembled at a VACUUBRAND BVC, without VHC<sup>pro</sup>, without quick coupling)

**Hose nozzle DN 6/10mm, thread G1/4" .....638509**

**For further accessories and spare parts see instructions for use of the VHC<sup>pro</sup>.**



Various adapters (e.g. 8-channel manifold), micro pipettes or Pasteur pipettes as well as straight-bore stopcocks with nozzles are available from BRAND GMBH + CO KG ([www.brand.de/en](http://www.brand.de/en)) via laboratory products distributors.

# Troubleshooting

Fault	Possible cause	Remedy
<input type="checkbox"/> No aspiration.	<ul style="list-style-type: none"> <li>➔ Filter clogged?</li> <li>➔ Leak at the bottle head?</li> <li>➔ No vacuum supply connected?</li> <li>➔ No vacuum while vacuum supply connected?</li> </ul>	<ul style="list-style-type: none"> <li>✓ Replace filter.</li> <li>✓ Check seals, coupling and blind cap. Screw in or replace if necessary.</li> <li>✓ Connect vacuum supply.</li> <li>✓ Check vacuum supply. Open lock valve in the vacuum line if applicable.</li> </ul>
<input type="checkbox"/> Pressure control device switches frequently.	<ul style="list-style-type: none"> <li>➔ Leak in the system?</li> <li>➔ Filter clogged?</li> <li>➔ Vacuum controller contaminated inside or defective?</li> </ul>	<ul style="list-style-type: none"> <li>✓ Check tubing, seals, coupling, and blind cap. Screw in or replace if necessary.</li> <li>✓ Replace filter.</li> <li>✓ Contact local distributor.</li> </ul>

# 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



**EG-Konformitätserklärung für Maschinen**  
**EC Declaration of Conformity of the Machinery**  
**Déclaration CE de conformité des machines**

Hersteller / Manufacturer / Fabricant:

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

Hiermit erklärt der Hersteller, dass das Gerät konform ist mit den Bestimmungen der Richtlinien:

Hereby the manufacturer declares that the device is in conformity with the directives:

Par la présente, le fabricant déclare, que le dispositif est conforme aux directives

2006/42/EG

2011/65/EU

Membranvakuumpumpe / Diaphragm vacuum pump / Pompe à membrane:

Typ / Type / Type: BVC basic, BVC basic G

Artikelnummer / Order number / Numéro d'article: 727000, 727100

Seriennummer / Serial number / Numéro de série: Siehe Typenschild / See rating plate / Voir plaque signalétique

Angewandte harmonisierte Normen / Harmonized standards applied / Normes harmonisées utilisées:

DIN EN 12100:2011, DIN EN 50581:2013

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen / Person authorised to compile the technical file / Personne autorisée à constituer le dossier technique:

Dr. J. Dirscherl · VACUUBRAND GMBH + CO KG · Alfred-Zippe-Str. 4 · 97877 Wertheim · Germany

Wertheim, 07.07.2017

.....  
ort, Datum / place, date / lieu, date

.....  
(Dr. F. Gitmans)

Geschäftsführer / Managing Director /  
Gérant

ppa. ....

(Dr. J. Dirscherl)

Technischer Leiter / Technical Director /  
Directeur technique



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## DECLARATION OF CONFORMITY – China RoHS 2

VACUUBRAND GMBH + CO KG has made reasonable efforts to ensure that hazardous materials and substances may not be used in its products.

In order to determine the concentration of hazardous substances in all homogeneous materials of the subassemblies, a “Product Conformity Assessment” (PCA) procedure was performed. As defined in GB/T 26572 the “Maximum Concentration Value” limits (MCV) apply to these restricted substances:

- Lead (Pb): 0.1%
- Mercury (Hg): 0.1%
- Cadmium (Cd): 0.01%
- Hexavalent chromium (Cr(+VI)): 0.1%
- Polybrominated biphenyls (PBB): 0.1%
- Polybrominated diphenyl ether (PBDE): 0.1%

### Environmental Protection Use Period (EPUP)



EPUP defines the period in years during which the hazardous substances contained in electrical and electronic products will not leak or mutate under normal operating conditions. During normal use by the user such electrical and electronic products will not result in serious environmental pollution, cause serious bodily injury or damage to the user's assets.

The environmental Protection Use Period for VACUUBRAND products is 40 years.



此表格是按照SJ/T 11363-2006中规定所制定的。

This table is created according to SJ/T 11363-2006.

MATERIAL CONTENT DECLARATION FOR VACUUBRAND PRODUCTS							
部件名称 Part name	有毒有害物质或元素 Hazardous substances						环保期限标识 EPUP
	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr(+VI)	多溴联苯 PBB	多溴二苯醚 PBDE	
包装 Packaging	O	O	O	O	O	O	
塑料外壳 / 组件 Plastic housing / parts	O	O	O	O	O	O	
真空油 Vacuum oil	O	O	O	O	O	O	
电池 Battery	O	O	O	O	O	O	
玻璃 Glass	O	O	O	O	O	O	
电子电气组件 Electrical and electronic parts	X	X	X	O	O	O	
控制器 / 测量设备 Controller / measuring device	X	O	X	O	O	O	
金属外壳 / 组件 Metal housing / parts	X	O	O	O	O	O	
电机 Motor	X	O	O	O	O	O	
配件 Accessories	X	O	O	O	O	O	



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**注释:** 此表格适用于所有产品。以上列出的元件或组件不一定都属于所附产品的组成。

**Note:** Table applies to all products. Some of the components or parts listed above may not be part of the enclosed product.

- O: 表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。  
O: Indicates that the above mentioned hazardous substance contained in all homogeneous materials of the part is below the required limit as defined in GB/T 26572.
- X: 表示该有毒有害物质至少在该部件某一均质材料中的含量超出GB/T 26572规定的限量要求。  
X: Indicates that the above mentioned hazardous substance contained in at least one of the homogeneous materials of this part is above the required limit as defined in GB/T 26572.

除上表所示信息外, 还需声明的是, 这些部件并非是有用铅 (Pb)、汞 (Hg)、铬 (Cd)、六价铬 (Cr(+VI))、多溴联苯 (PBB) 或多溴二苯醚 (PBDE) 来制造的。

Apart from the disclosures in the above table, the subassemblies are not intentionally manufactured or formulated with lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr+VI), polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE).

Products manufactured by VACUUBRAND may enter into further devices (e.g., rotary evaporator) or can be used together with other appliances (e.g., usage as booster pumps).

With these products and appliances in particular, please note the EFUP labeled on these products. VACUUBRAND will not take responsibility for the EFUP of those products and appliances.

Place, date: Wertheim, 04/24/2017



(Dr. F. Gitmans)  
Managing Director

ppa.



(Dr. J. Dirscherl)  
Technical Director

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**VACUUBRAND GMBH + CO KG**  
- Technology for Vacuum Systems -  
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Manual-no.: 999256 / 07/07/2017