

This is your **Aspirator** hand controller decontamination user manual.



Passionate for science.

 starlab



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1 Safety information



WARNING

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

NOTICE

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

IMPORTANT

In case of devices which have been in contact with biological substances of risk level 2, contact the Starlab service **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 and even decontaminated devices must not be returned to Starlab due to a residual risk.

The same conditions apply to onsite work.

This manual describes the decontamination of the Aspirator and the Hand Controller. **The applicability of the decontamination method and the selection of the appropriate disinfectants have to be ensured by the user.**

Ensure that work is carried out only by trained personnel. Obey local and national safety requirements. Ensure that the person 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.



NOTICE

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.

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**") 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.

2 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.

Aspirator	Material*
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

* 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 Hand Controller)	PP
Hose in bottle	PTFE
Hose nozzle (connection filter)	PPS, glass fibre reinforced
Counter nut	PP
Closing screw	PPS, glass fibre reinforced
Collection bottle 2l	
Bottle	borosilicate glass
Cap insert	PP
Flat seal	EPDM
Hose bottle at bottle head (connection Hand Controller)	PP
Hose in bottle	PTFE
Hose nozzle (connection filter)	PPS, glass fibre reinforced
Closing screw	PPS, glass fibre reinforced

We reserve the right to change technical specifications without prior notice.



Vacuum pump	Material
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 / fluorosilicone
Sensor tube	PTFE / PVC

Hand Controller	Material
Aspiration hose	Silicone rubber
Adapter pipettes	TPE / PP
Adapter pipettes tips	PP
Srew cap, adjusting knob, operation lever	PPS, glass fibre reinforced
Housing	PP, glass fibre reinforced

We reserve the right to change technical specifications without prior notice.



3 Decontamination of the vacuum pump

IMPORTANT

Important information

Devices may be contaminated due to operation.

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

Also, in case of a defect of the filter or operation of the Aspirator 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 non-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 personnel 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 any tools used 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 with the device an evidence of verification of the decontamination, stating the detection method.

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

4 Disassembling the Aspirator



IMPORTANT

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

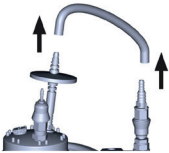


Tools required (metric):

- Tweezers
- Open-ended wrench SW 19
- Screw driver Torx TX20
- Tool for diaphragm change (order no.: N2400-9015)



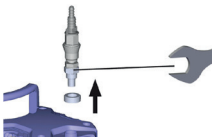
- > Unscrew elbow fitting with silencer at the outlet of the pump.



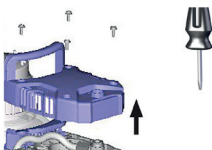
- > Depending on Aspirator version, remove connection tubing at the hose nozzle or detach quick coupling.
- > Remove bottle from support.



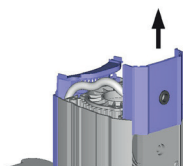
- > Dismantle bottle into individual components.



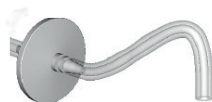
- > Unscrew hose nozzle, or hose nozzle with coupling, using an open-ended wrench.



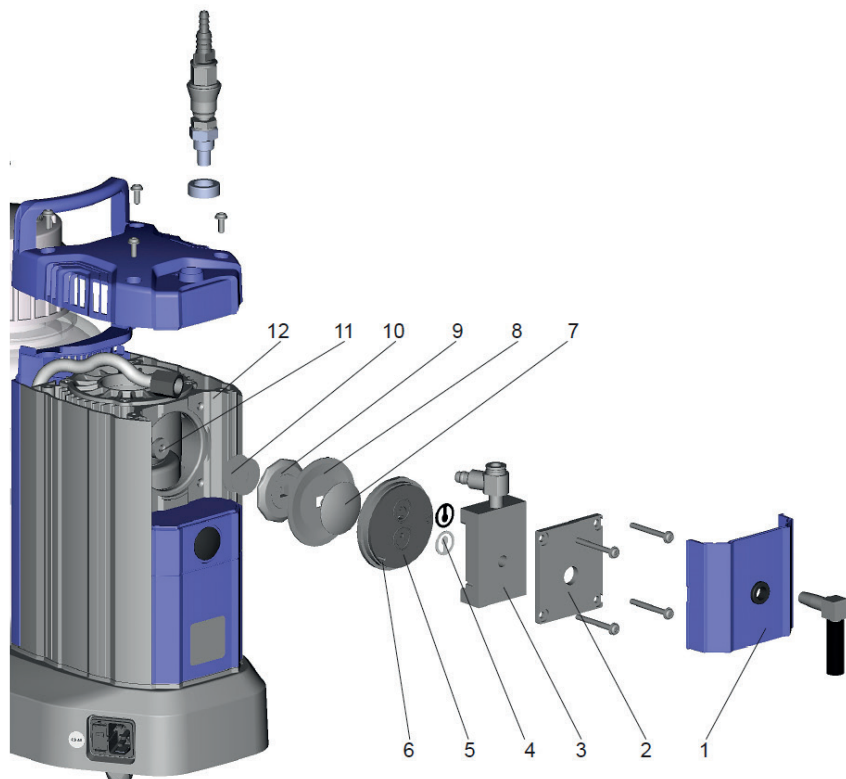
- > Unscrew cover, paying attention to washers.



- > Remove the cover of the housing cover.

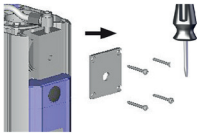


View of the disassembled pump head parts

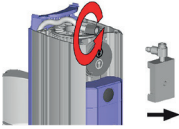


- 1: Cover of housing cover
- 2: Housing cover
- 3: Housing cover insert
- 4: Valves
- 5: Head cover
- 6: Guiding pin

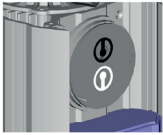
- 7: Diaphragm clamping disc with square head screw
- 8: Diaphragm
- 9: Diaphragm support disc
- 10: Washers
- 11: Rod
- 12: Housing



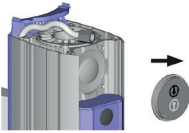
- > Unscrew four screws at the pump head, paying attention to washers.
Remove housing cover.



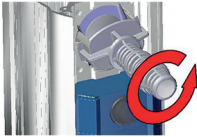
- > Unscrew union nut and remove hose from elbow fitting.
- > Remove housing cover insert with elbow fitting.



- > 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 Aspirator as shown.
- > Unscrew screws at the base plate.

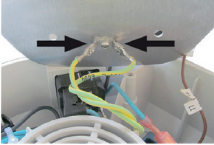


- > Slide the base plate to the side.

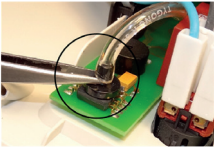


IMPORTANT

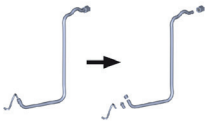
Connect person to ground before coming in contact with electronic parts.



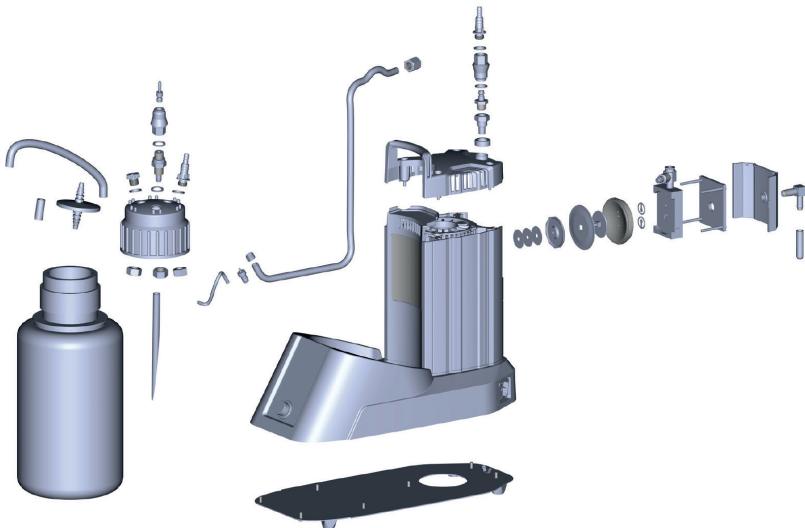
> Remove earth cables.



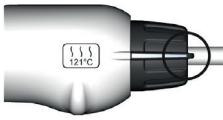
> Remove hose from pressure sensor using tweezers.



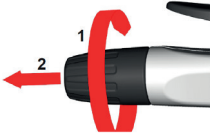
> Remove sensor hose and dismantle into individual components.



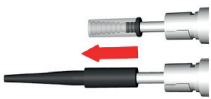
5 Disassembling the Hand Controller



> Select continuous aspiration.



> Turn cap (1) and remove (2).



> Pull adapter with hose out of the Hand Controller.



> Remove adapter from hose.



> Pull aspiration hose out of the handle.



**NOTICE**

It is not possible to disassemble the Hand Controller completely.

**IMPORTANT**

Do not return the aspiration hose.



7 Repair - Maintenance - Return

IMPORTANT

In case of service requests contact your local Starlab sales representative or Starlab service technician. Contact details can be found "Starlab Service Hotline" or the back page.



Return Form

Return code

Kindly enclose this form with every return!

Recipient

STARLAB INTERNATIONAL GmbH
Neuer Hötligbaum 38
D-22143 Hamburg

Warehouse Technical Service

Sender

Company:
Name:
Address:
Customer N°:
Tel. / E-Mail:

Reason for return (Please tick)

Wrong delivery Product Defect Wrong item ordered

Delivery note N°:

Details :

Returned Items			internal, filled in by the recipient	
Item N°	Lot N° / Serial N°	Quantity	Complete Quantity	Saleable Units
1.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:
2.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:
3.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:
4.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:
5.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:
6.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:
7.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:
8.			<input type="checkbox"/> yes <input type="checkbox"/> no	Units:

Return handling

Exchange item Credit Note

Number of boxes

Total number of returned boxes:

Was a decontamination of the returned goods necessary? Yes No

If yes, which was the nature of the contamination?

Method of decontamination:

I confirm that the information on this form is accurate and the items detailed are safe to handle.

Date

Signature

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VAT ID no. pursuant to
§ 27 a German
VAT Act DE 214 891 717

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