



Technology for Vacuum Systems

CHEMISTRY PUMPING UNITS



Type: PC 3001 VARIO^{PRO}, PC 3001 VARIO^{PRO} EK Peltronic, PC 3001 VARIO^{PRO} TE,
PC 3001 VARIO^{PRO} IK, PC 3001 BASIC

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.

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CONTENT

1	Introduction	5
1.1	User information	5
1.2	About this document.	6
1.2.1	Symbols and icons	6
1.2.2	Display conventions	7
2	Safety instructions	8
2.1	Target groups	8
2.2	Safety precautions	8
2.2.1	Personal responsibility	9
2.2.2	Eliminate sources of danger	9
2.3	Environmental protection	10
3	Notes concerning repair	11
3.1	Typical lifetime	11
3.2	Prior to maintenance and repair	12
3.3	After maintenance and repair	12
3.4	Replacing diaphragms and valves	13
4	Replacing the motor circuit board	14
5	Replacing the power supply	18
6	Exploded drawings	26
7	Spare parts	33
8	Service	38
8.1	Terms of service	38
8.2	Service requests	39
8.3	Return	39
9	Health and safety clearance form	40

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 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).

Separate from mains



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.

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

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.

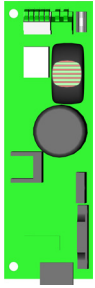
Please ask for replacement in case of missing instructions for use. Alternatively, you can download instructions for use on our web page: www.vacuubrand.com.



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

⇒ Observe section „Return“.

4 Replacing the motor circuit board



Spare part

Circuit board for PC 3001 Vario^{pro}, 24V= (612735)




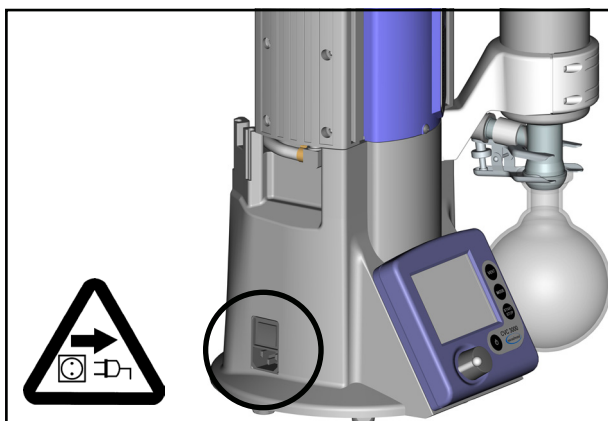
Tool

Phillips screw driver size 1

ESD wrist strap



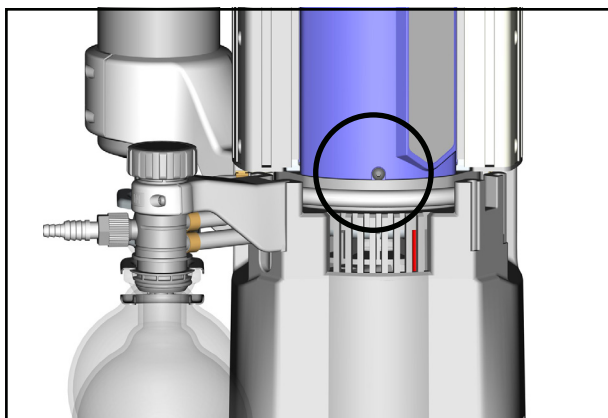
CAUTION	
	Electrostatic discharge (ESD). Damage of electronic components. <ul style="list-style-type: none">⇒ Do not touch electronic components.⇒ Connect the person in charge to ground by using an ESD wrist strap.



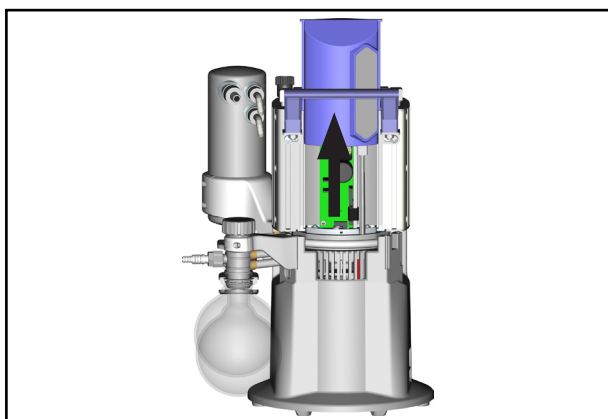
1. Separate the device from mains. Switch off the device and unplug.
2. Allow the capacitors to discharge.

**IMPORTANT!**

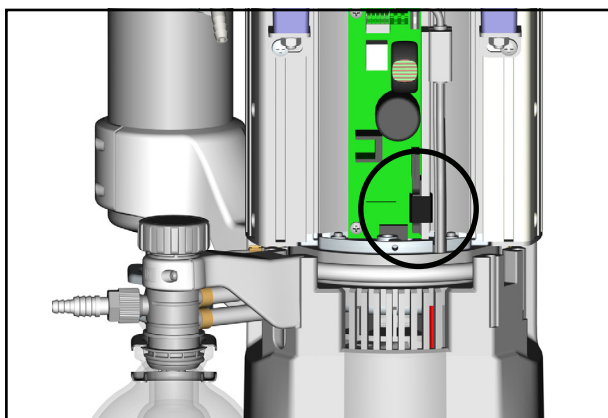
Connect person to ground before coming in contact with electronic parts.



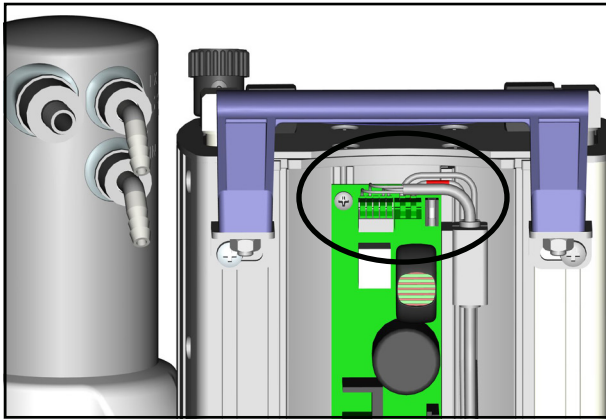
3. Unscrew the screw at the pump cover with rating plate.



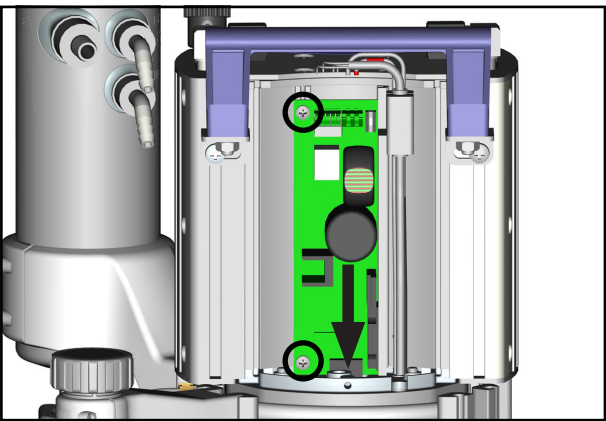
4. Slide the cover upwards out of the pumping unit.



5. Remove the clamp at the circuit board.



6. Remove the cables at the circuit board.

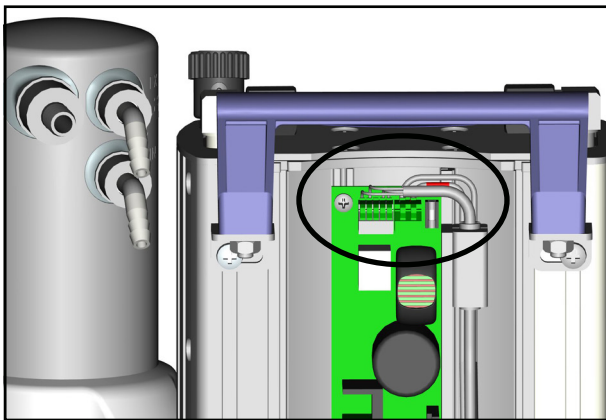


7. Unscrew the defective circuit board.

8. Pull out the circuit board from the connector strip of the commutation circuit board.

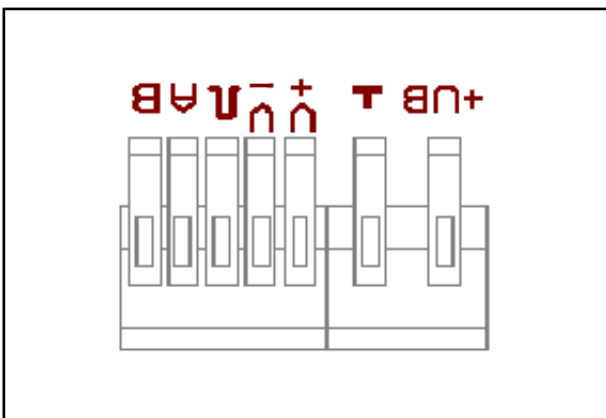
9. Plug the new circuit in the connector strip of the commutation circuit board.

10. Screw the new circuit board.



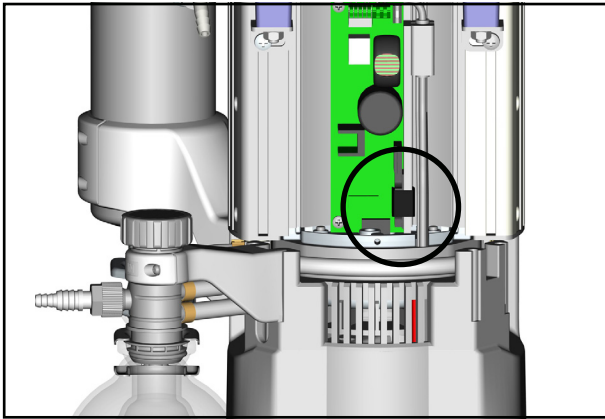
11. Connect the cables correctly, see below.

⇒ Connect the both cables with larger wire cross section to +UB and ⊥ (GND).

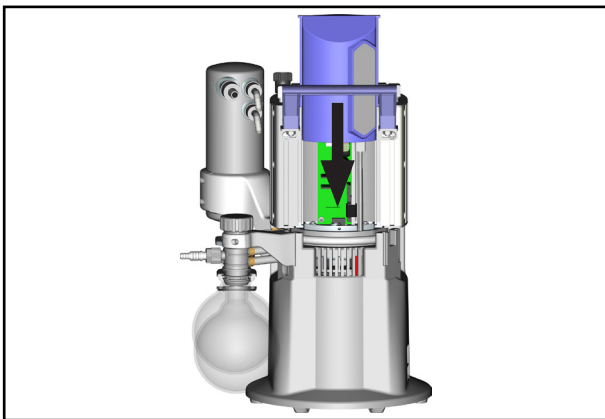


Terminal diagram

Terminal	Cable
+UB	red
⊥ (GND)	black
V+	brown
V-	blue
Π (PWM)	-
A	white
B	black

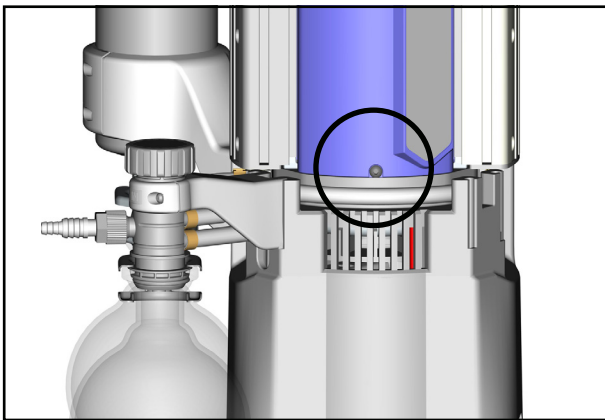


12. Clip on the clamp.



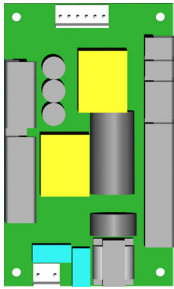
⇒ Do not squeeze cables.

13. Push the cover against the stop in the pump housing.



14. Screw the cover.

5 Replacing the power supply



Spare part

Power supply 130W (612409)

Tool

Phillips screw driver size 1
Torx screw driver TX10
Open-ended wrench SW 17
Socket wrench 5,5 mm
Split ferrite key



ESD wrist strap



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.



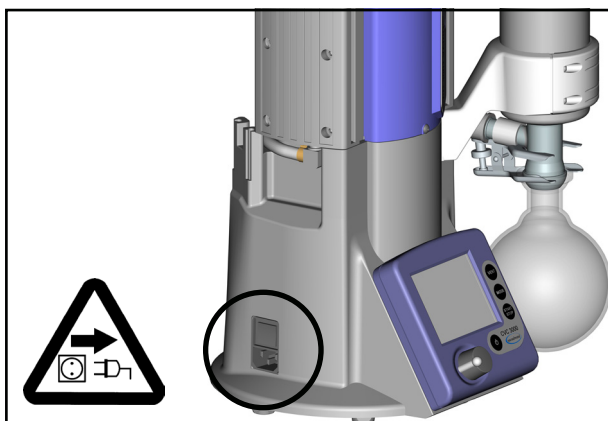
CAUTION

Electrostatic discharge (ESD).

Damage of electronic components.

- ⇒ Do not touch electronic components.
- ⇒ Connect the person in charge to ground by using an ESD wrist strap.

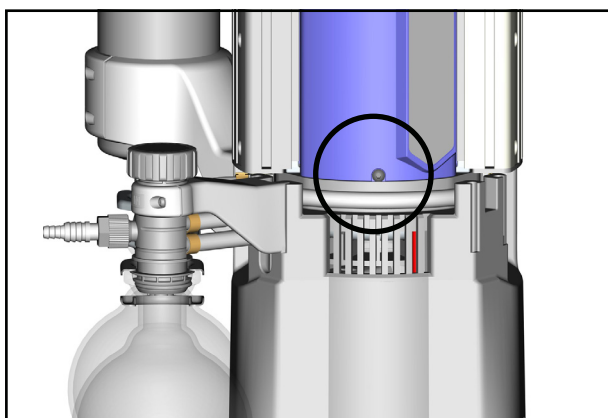




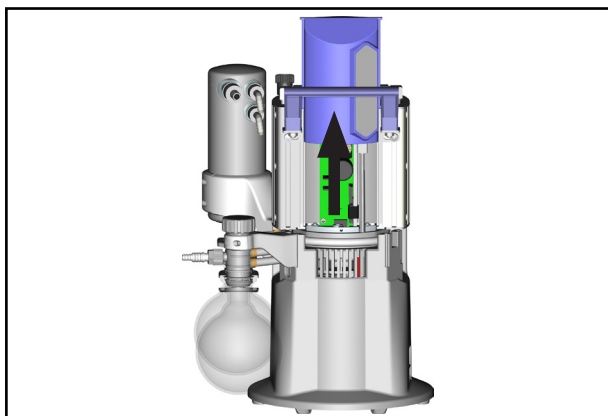
1. Separate the device from mains. Switch off the device and unplug.
2. Allow the capacitors to discharge.

**IMPORTANT!**

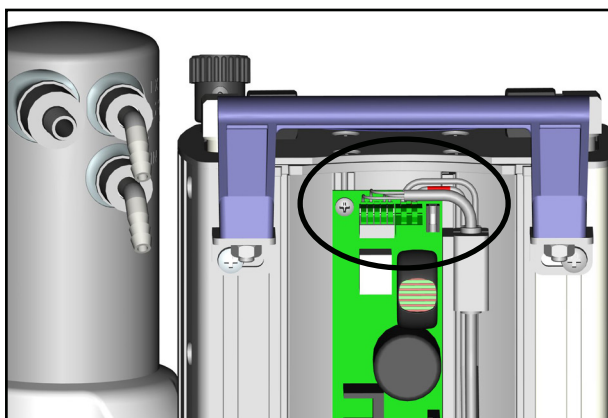
Connect person to ground before coming in contact with electronic parts.



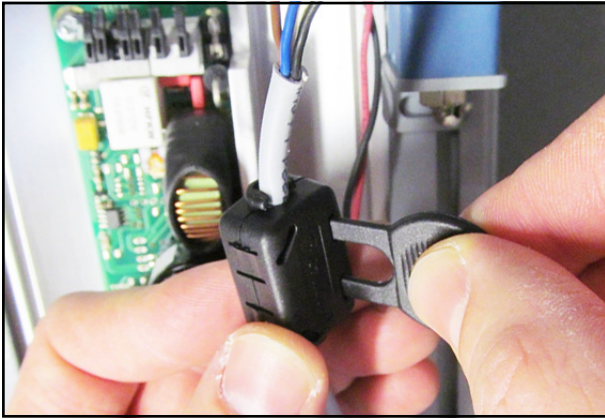
3. Unscrew the screw at the pump cover with rating plate.



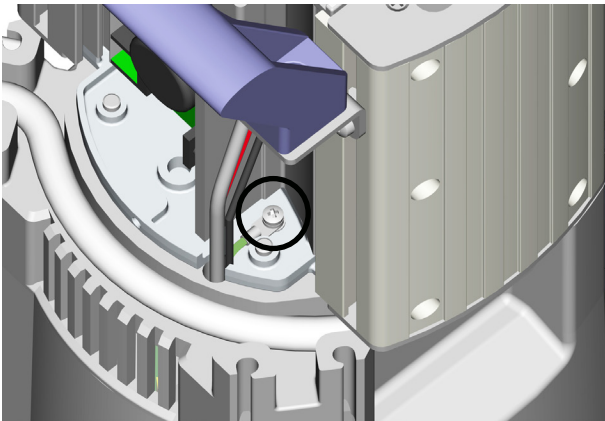
4. Slide the cover upwards out of the pumping unit.



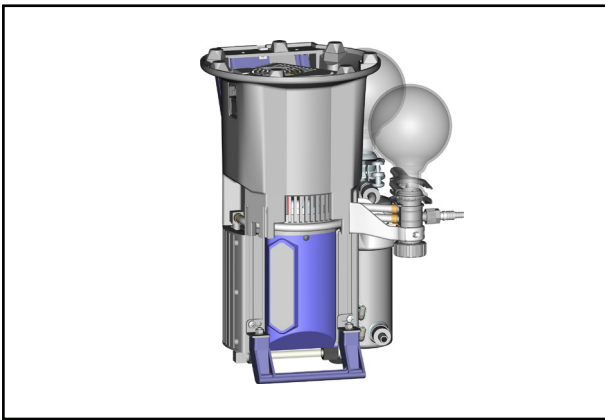
5. Remove the cables at the circuit board.



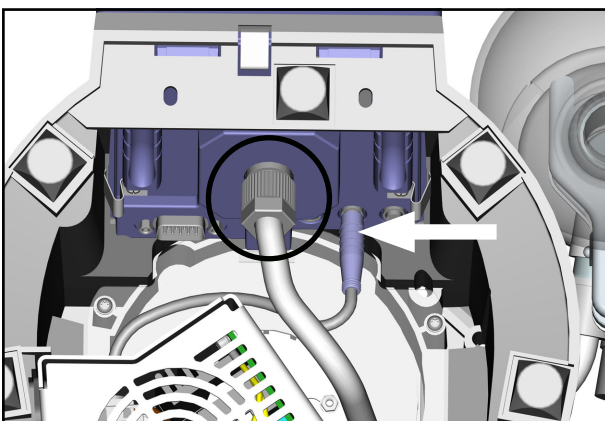
6. Open the split ferrite using a split ferrite key. Remove the split ferrite from the cable.



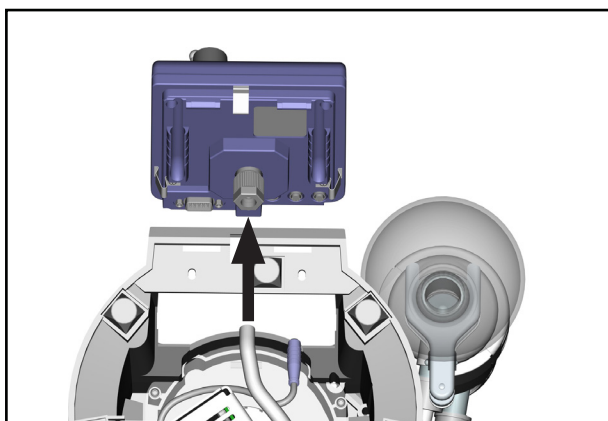
7. Unscrew the screw of the earth cable at the motor bearing flange.



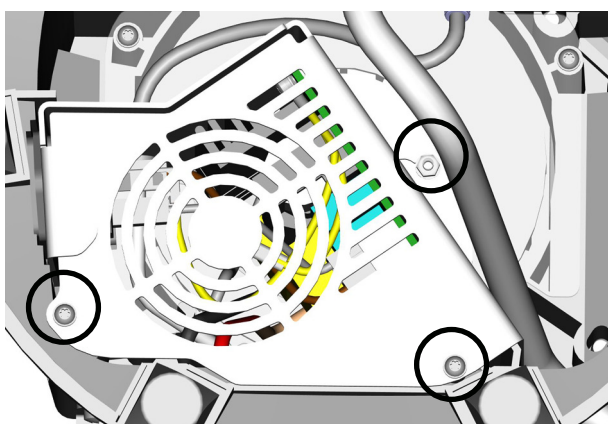
8. Rotate the pumping unit.
9. Support the pumping unit appropriately.



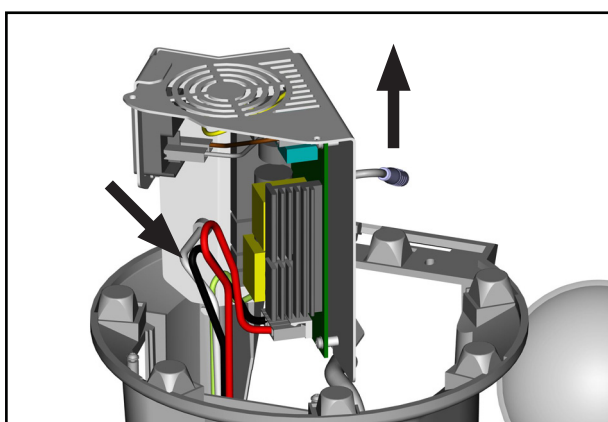
10. Remove the plug at the controller.
11. Loose the union nut at the controller and remove hose.



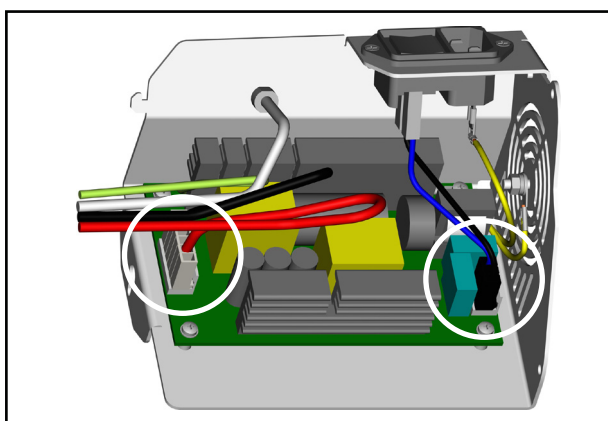
12. Remove the controller from the pump foot.



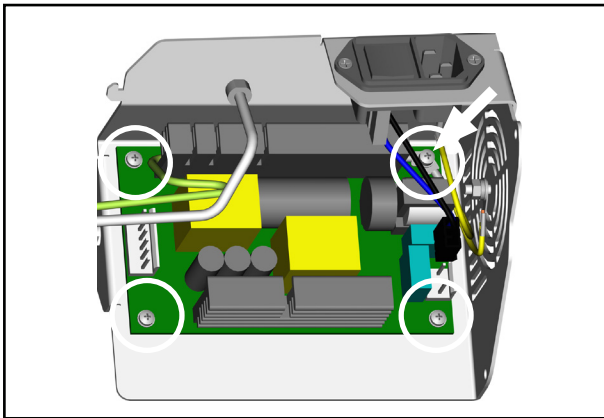
13. Unscrew the power supply support.



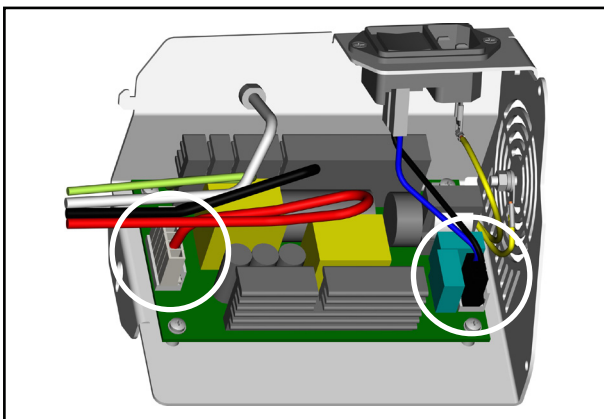
14. Remove the power supply support from the pump foot. Obey cables.



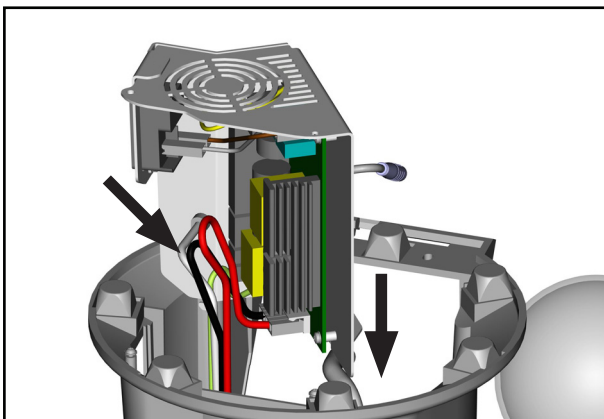
15. Remove both cable plugs from the circuit board.



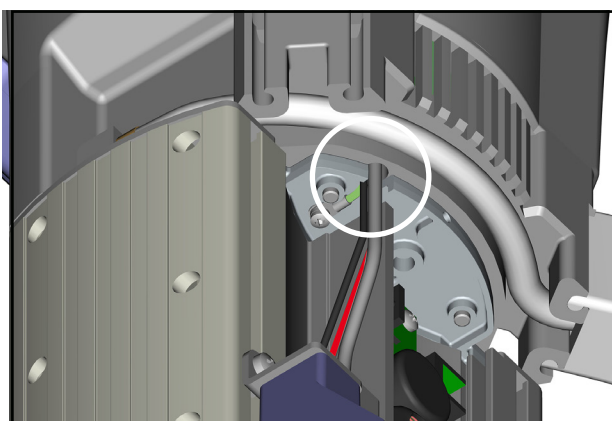
16. Unscrew the defective power supply from the support.
 17. Screw the new power supply.
- ⇒ Obey correct fixing of the earth cables when assembling the new power supply.



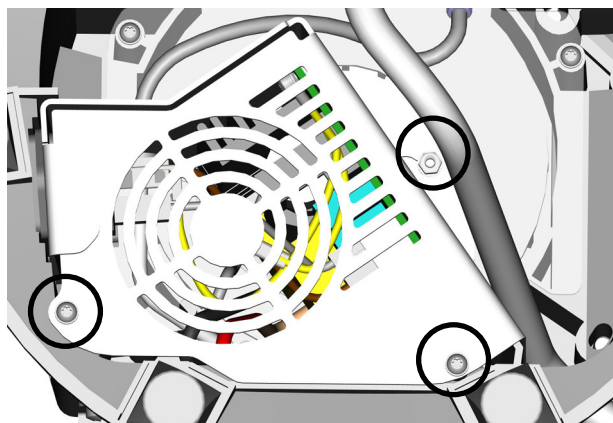
18. Plug both cable plugs correctly on the circuit board.



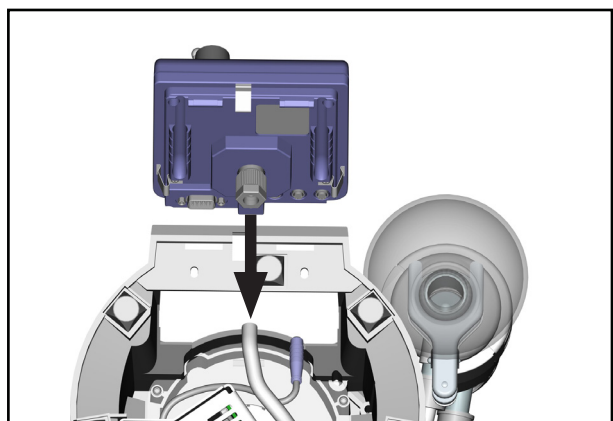
19. Position the power supply support to the pump foot.



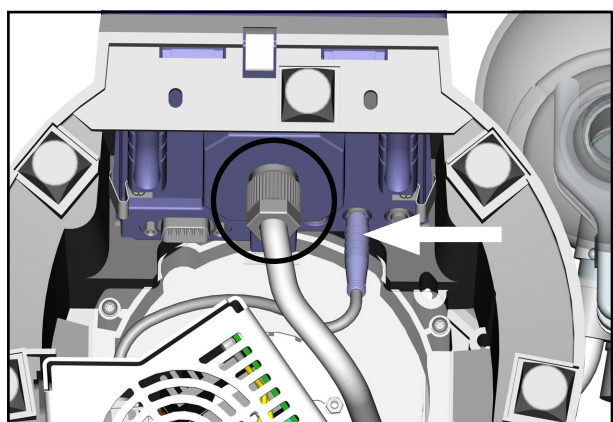
20. Push the cables through the opening in the housing.
- ⇒ Do not damage cables



21. Screw the power supply support.

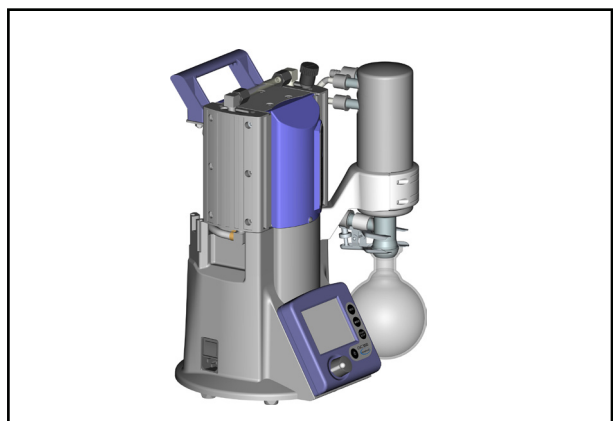


22. Push the controller in the pump foot.

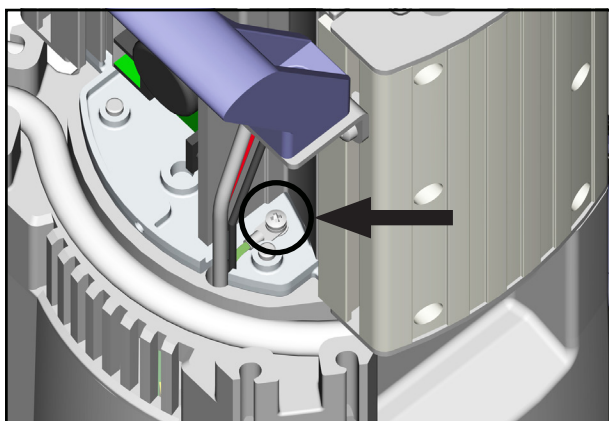


23. Insert the plug into the controller.

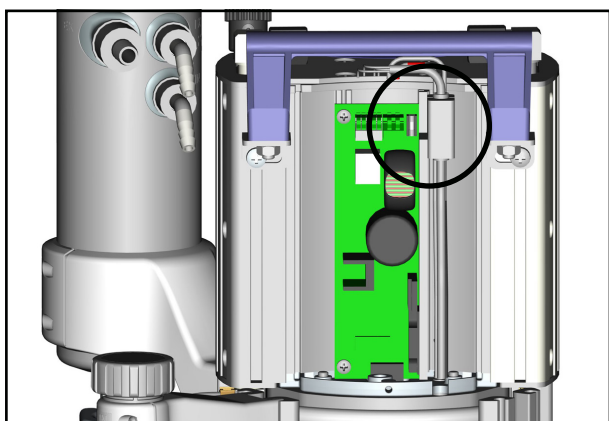
24. Connect the hose to the vacuum connection of the controller and screw union nut.



25. Position pumping unit on its feet.

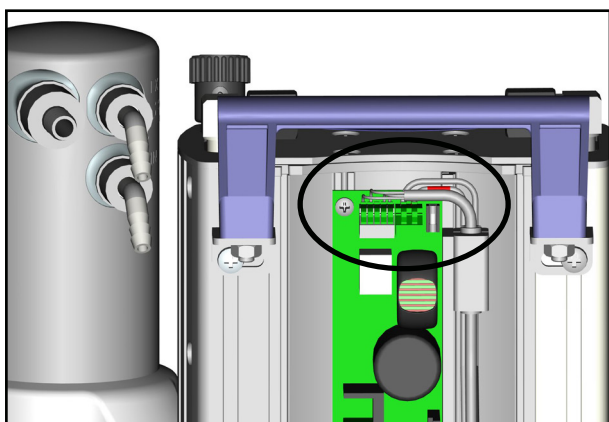


26. Screw the earth cable to the motor bearing flange.



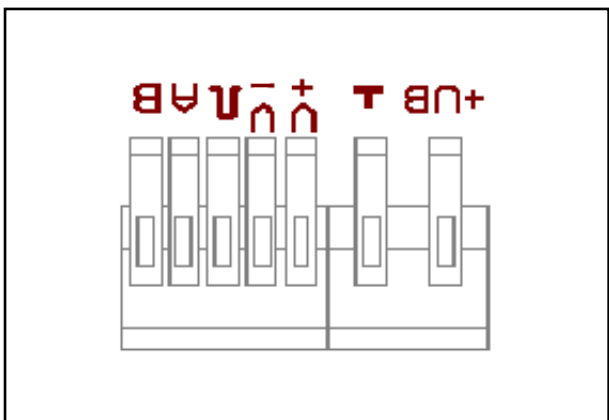
⇒ The distance between cable ends and split ferrite has to be 6 cm.

27. Position the split ferrite to the cable and press together.



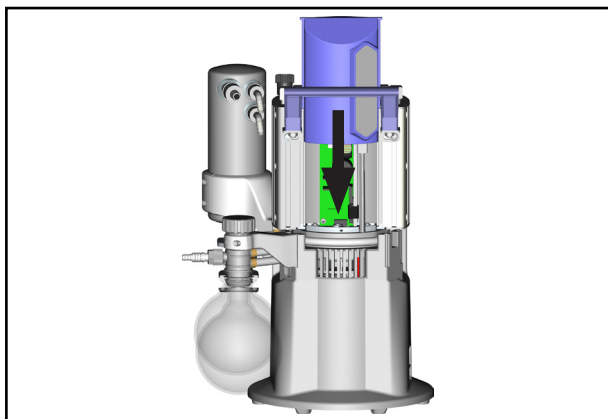
28. Connect the cables correctly, see below.

⇒ Connect the both cables with larger wire cross section to +UB and ⊥ (GND).



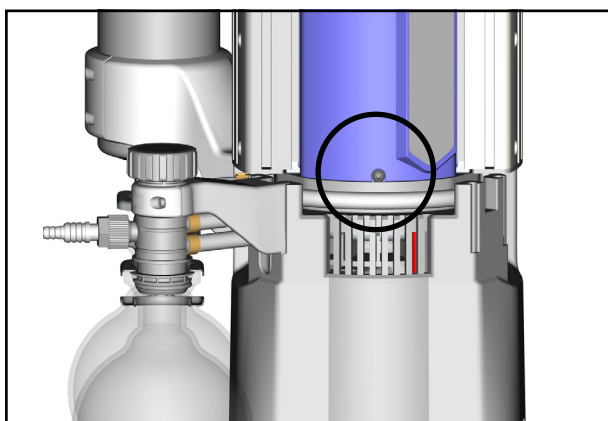
Terminal diagram

Terminal	Cable
+UB	red
⊥ (GND)	black
V+	brown
V-	blue
⊥ (PWM)	-
A	white
B	black



⇒ Do not squeeze cables.

29. Push the cover against the stop in the pump housing.

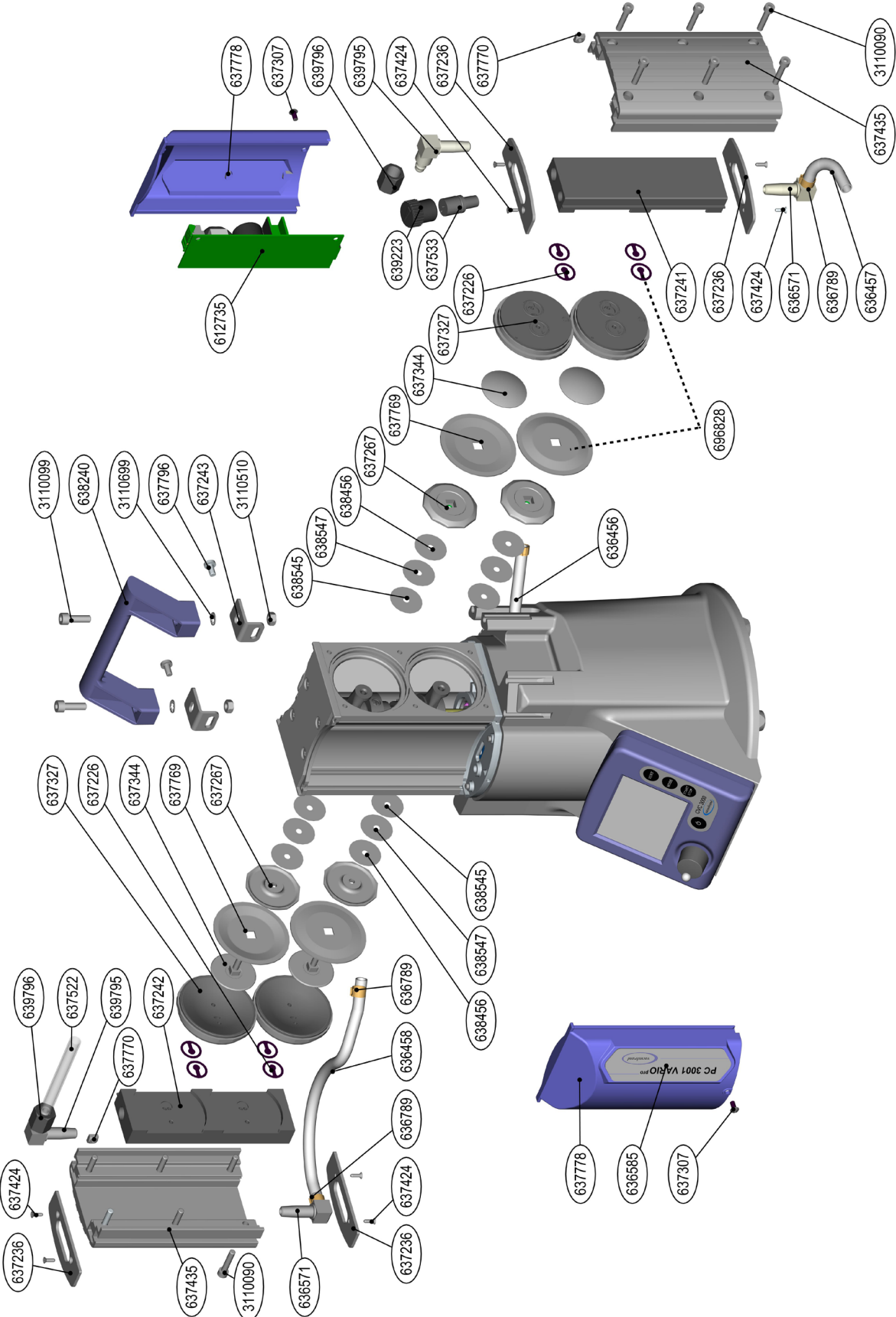


30. Screw the cover.

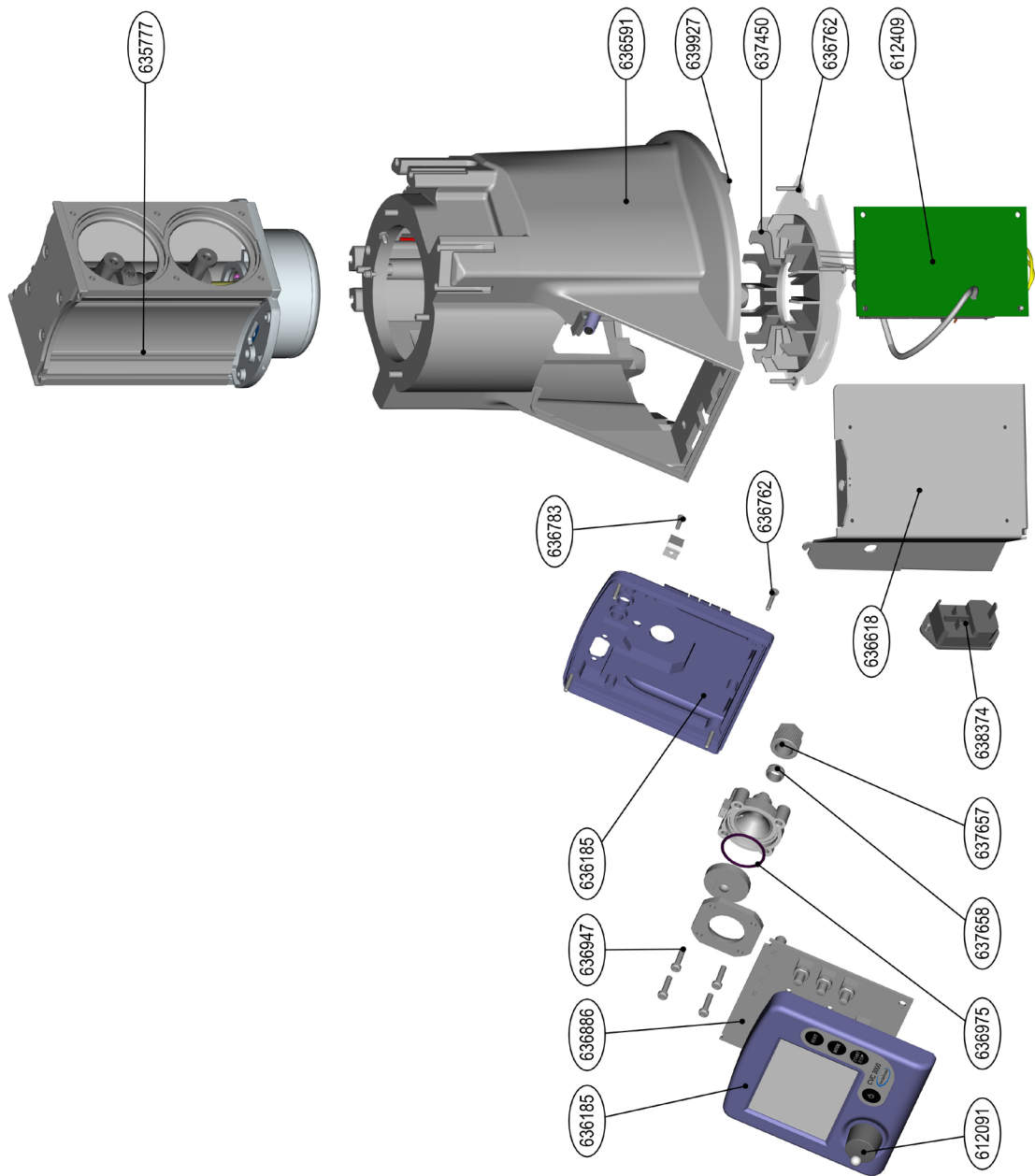
IMPORTANT!

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

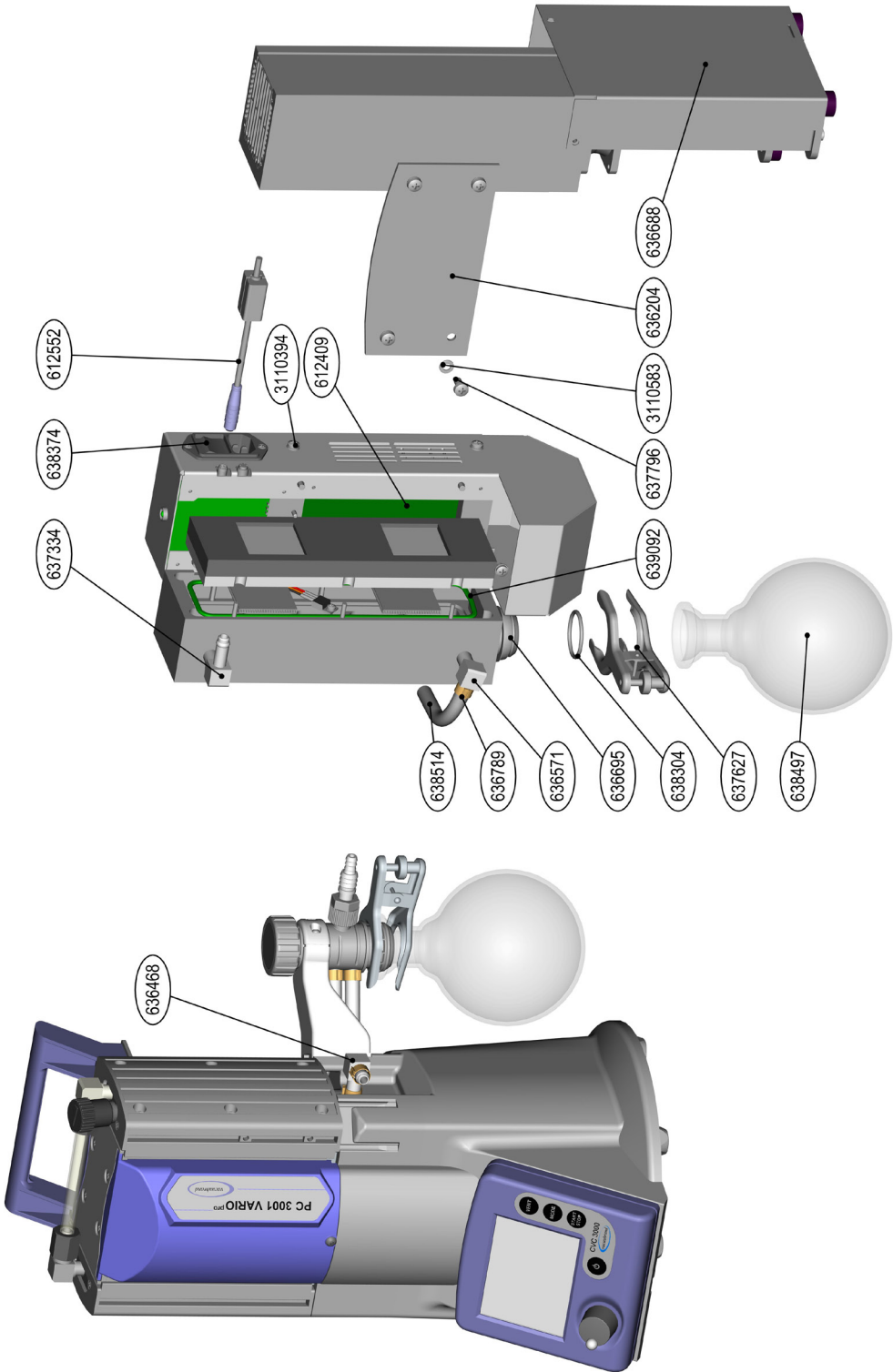
PC 3001 VARIO PRO



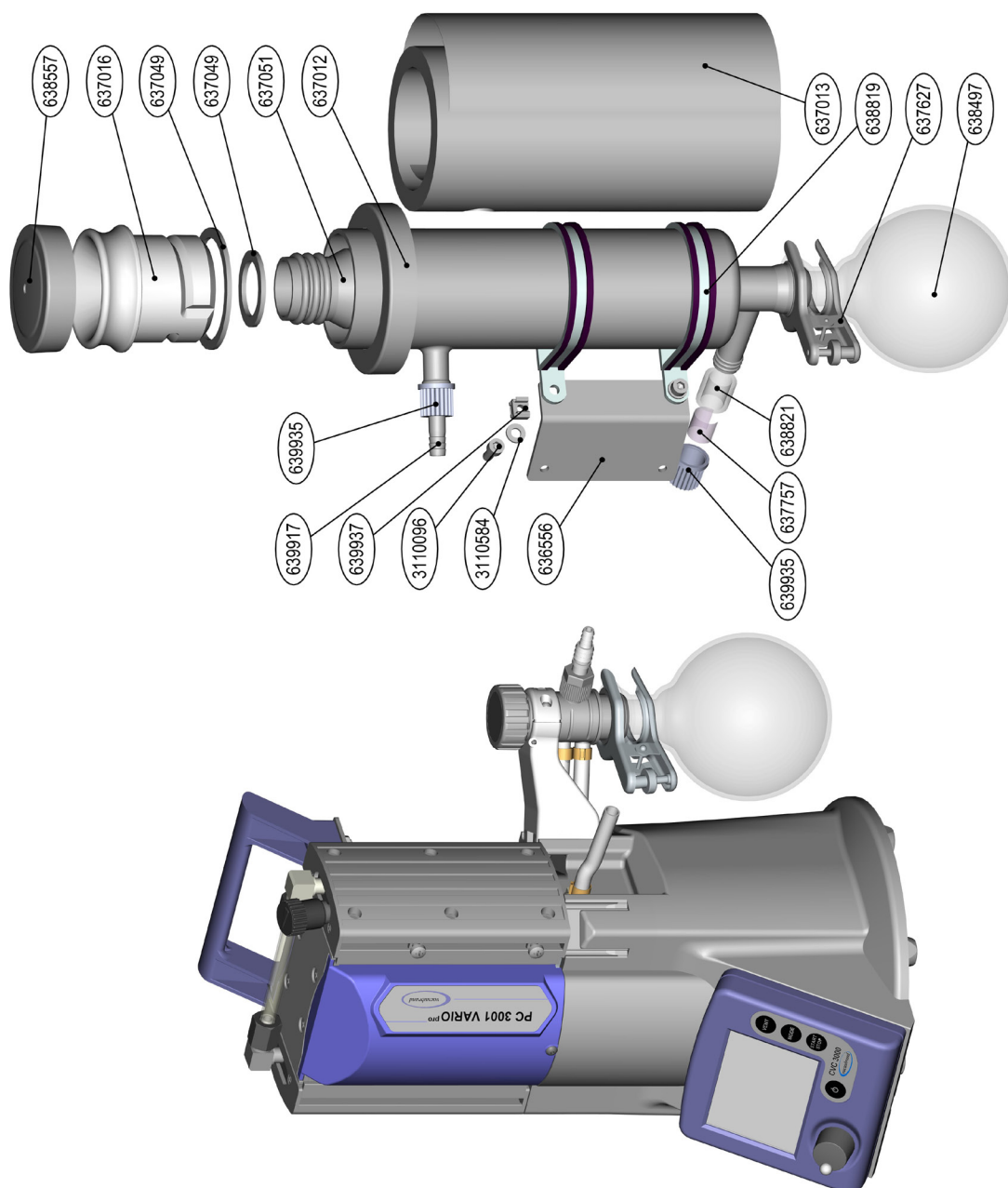
PC 3001 VARIO PRO



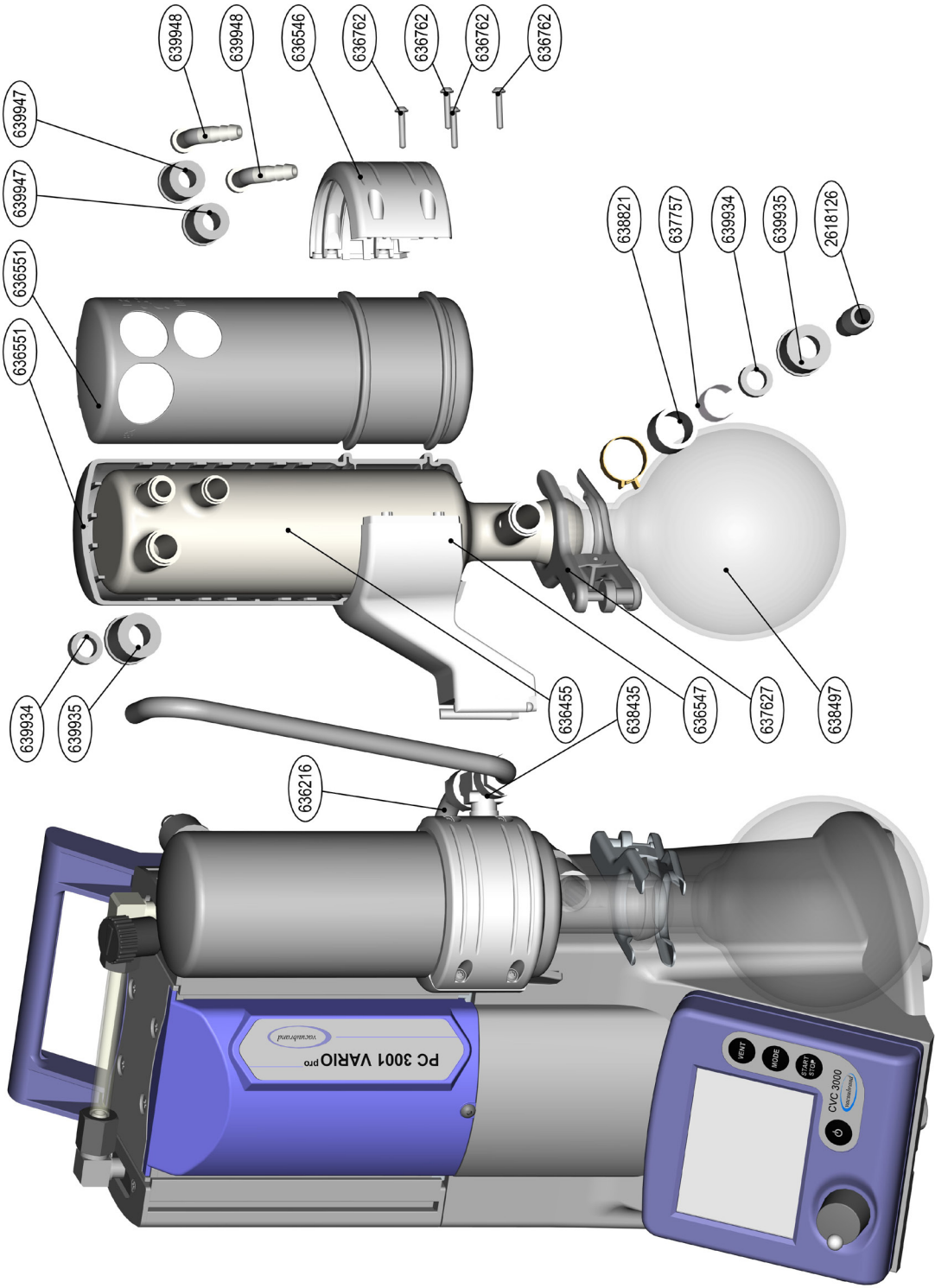
PC 3001 VARIO^{PRO} + EK Peltronic



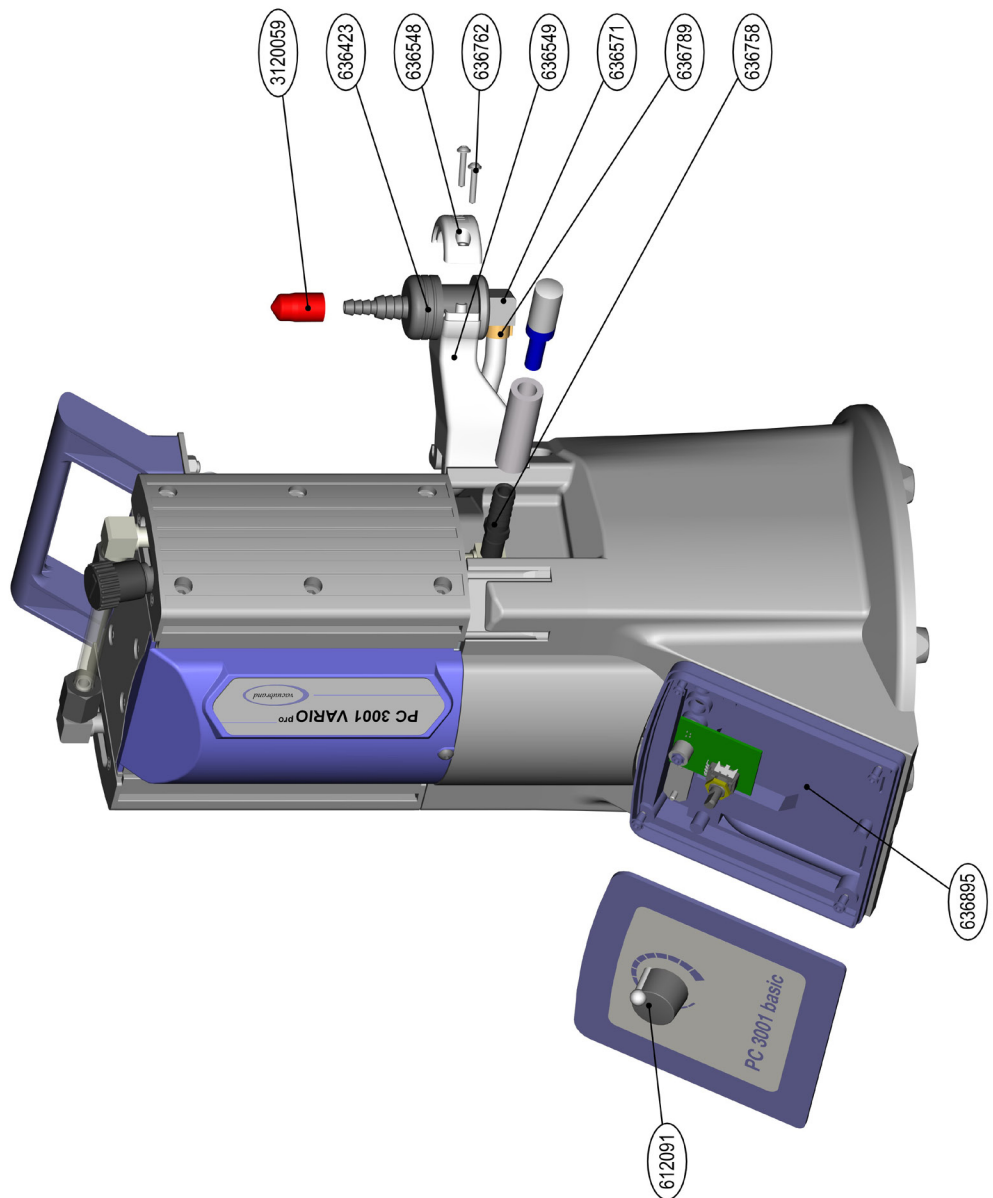
PC 3001 VARIO^{PRO} + dry ice condenser



PC 3001 VARIO PRO + IK



PC 3001 Basic



7 Spare parts

	Bezeichnung	Designation	Désignation
612091	Drehknopf	Selection knob	Bouton de navigation
612172	Stecker, 4-polig	Plug, 4 poles	Connecteur, 4 pôles
612409	Netzteil 130W 24V DC	Power supply 130W 24V DC	Chargeur 130W 24V DC
612552	Verlängerungskabel VACUU·BUS, 2 m	Extension cable VACUU·BUS, 2 m	Câble d'allongement VACUU·BUS, 2 m
612735	Platine für PC 3001 VARIOpro, 24V/±	Circuit board for PC 3001 VARIOpro, 24V/±	Carte électronique pour PC 3001 VARIOpro, 24V/±
635628	O-Ring, 28mm x 2,5mm, Fluorelastomer	O-ring, 28mm x 2.5mm, fluoroelastomer	Joint torique, 28mm x 2,5mm, élastomère fluoré
635777	Rumpfpumpe MD 1 24V/± für PC 3001	Basic pump MD 1 24V/± for PC 3001	Pompe nue MD 1 24V/± pour PC 3001
636185	Gehäuse komplett mit LCD-Anzeige für CVC 3000	Housing complete with LCD for CVC 3000	Boîtier complet avec LCD pour CVC 3000
636204	Halblech EK Peltronic	Holder EK Peltronic	Console EK Peltronic
636423	Verteiler	Distributor	Distributeur
636456	Schlauch, geformt, PTFE, 10/8 mm	Formed hose, PTFE, 10/8 mm	Tuyau modelé, PTFE, 10/8 mm
636457	Schlauchbogen, PTFE, 10/8 mm	Bent hose, PTFE, 10/8 mm	Tuyau coudé, PTFE, 10/8 mm
636458	Schlauchbogen, PTFE, 10/8 mm	Bent hose, PTFE, 10/8 mm	Tuyau coudé, PTFE, 10/8 mm
636468	Schlauchwelle DN 8mm, 90°, mit Rohransatz 10/8mm	Hose nozzle DN 8mm, 90°, with tube 10/8mm	Embout cannelé DN 8mm, 90°, 10/8mm
636476	Verteilerkopf mit Kugelschliffansatz	Gas distributor part with spherical joint	Tête de distributeur avec raccord à rodage sphérique pour bollon rond
636546	Gegenhalter für EK 500 kompakt	Clamp for EK 500 compact	Contre-support pour EK 500 compact
636547	Halterung für EK 500 kompakt	Holder for EK 500 compact	Support pour EK 500 compact
636548	Gegenhalter Verteilerkopf IN	Clamp for inlet gas distributor	Contre-support pour distributeur aspiration
636549	Halterung für Verteilerkopf	Holder for gas distributor	Support pour distributeur VKR
636551	Isolierhülle für EK/IK 500 kompakt	Insulating cover for EK/IK 500 compact	Gainne isolante pour EK/IK 500 compact
636556	Träger EK	Support for EK	Support EK
636571	Schlauchwelle DN 8mm, 1/8 NPT	Hose nozzle DN 8mm, 1/8 NPT	Embout cannelé DN 8mm, 1/8 NPT

636585	Klebeschild Logo ‚PC 3001 Pro‘	Adhesive label logo ‚PC 3001 Pro‘	Autocollant logo ‚PC 3001 Pro‘
636591	Standgehäuse PC 3001	Housing PC 3001	Boîtier-support PC 3001
636618	Netzteilträger	Charger carrier	Support de chargeur
636635	Schlauchwelle DN 6/10mm mit Rohransatz 10/8mm	Hose nozzle DN 6/10mm with tube 10/8mm	Embout cannelé DN 6/10mm
636688	Stützblech	Support plate	Tôle de support
636695	Kugelschiffanschluss, 1/4 NPT	Spherical joint connection, 1/4 NPT	Raccord à rodage sphérique, 1/4 NPT
636758	Schlauchwelle DN 10mm mit Rohransatz 10/8mm für NT-Chemiemembranpumpen, Länge 44mm	Hose nozzle DN 10mm with tube 10/8mm for NT chemisrty diaphragm pumps, length 44mm	Embout cannelé DN 10mm, pour pompes à membrane chimiques NT, longueur 44mm
636762	Schraube M3x18mm, Torx	Screw M3x18mm, Torx	Vis M3x18mm, Torx
636783	Linsenkopfschraube M3x10mm	Round head screw D3x10mm	Vis à tête bombée M3x10mm
636789	Schlauchschelle D 10,5	Hose clamp D 10.5	Collier de serrage pour tuyau D 10,5
636886	Platine CVC 3000	Circuit board CVC 3000	Carte électronique CVC 3000
636895	Rückblende CVC/DCP 3000	Back panel CVC/DCP 3000	Panneau arrière CVC/DCP 3000
636947	Linsenkopfschraube M4x18mm, Torx	Round head screw M4x18mm, Torx	Vis à tête bombée M4x18mm, Torx
636975	O-Ring 28 mm x 2 mm	O-Ring 28 mm x 2 mm	Joint torique 28 mm x 2 mm
637012	Schutzabdeckung Emissionskondensator EK 800TE	Cover emission condenser EK 800TE	Couvercle de protection EK 800TE
637013	Schutzfolie 800TE	Protective foil 800TE	Film de protection 800TE
637016	Zwischenteil EK800TE F CAD01	Zwischenteil EK 800TE	Intermediate part EK 800TE
637049	Dichtungssatz für EK800 TE	Set of seals for EK800 TE	Jeu de joints pour EK 800 TE
637051	Kühlfinger für Emissionskondensator EK 800 TE	Cooling finger for emission condenser EK 800 TE	Doigt de refroidissement pour EK800 TE
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)
637236	Blende	Blind	Couverture
637241	Gehäusedeckelinnenteil 2-Zyl., Reihe	Housing cover insert 2-cyl., serial connection	Intérieur du couvercle de carter pompe à membrane 2 têtes, en ligne

	Gehäusedeckelinnenteil (parallel)	Housing cover insert (parallel)	Intérieur du couvercle de carter (parallèle)
637242	Winkel	Angle	Coude
637243	Membranzstützscheibe 7,2mm, klein	Diaphragm support disc 7.2mm, small	Disque de support de membrane 7.2mm
637267	U - Scheibe A3,2	Plain washer A3,2	Rondelle A3,2
637295	Linsensenk schraube M4x25mm, Edelstahl	Round head countersunk screw M4x25mm, stainless steel	Vis à tête bombée M4x8mm, inox
637307	Kopfdeckel Chemiemembranpumpe (klein)	Head cover chemistry diaphragm pump (small)	Couvercle de tête pour pompe à membrane chimie (petite)
637327	Schlauchwelle DN 8mm, 90°, Gewinde NPT 1/8	Hose nozzle DN 8mm, 90°, thread NPT 1/8	Embout cannelé DN 8mm, 90°, NPT 1/8
637334	Membranzspannscheibe, klein	Clamping disc, small	Disque de tension de membrane
637344	Gehäusedeckel 2-Zyl. C	Housing cover 2 cyl. C	Couvercle de carter 2 têtes C
637435	Lüfter	Fan	Ventilateur
637450	Schlauch, gerade, PTFE, 10/8 mm	Hose, straight, PTFE, 10/8 mm	Tuyau plan, PTFE, 10/8 mm
637522	Gasballast-Verschraubung NPT 1/8, gerade	Gas ballast straight fitting, NPT 1/8	Raccord de lest d'air NPT 1/8, droit
637533	Kugelschliffklemme, KS 35 / 25, VA	Joint clip, KS 35 / 25, VA	Pince pour rodages sphériques KS 35 / 25, VA
637627	Rändelmutter M14x1 für Schlauchverschraubung DN 10/8mm, ohne Klemmring	Knurled nut M14x1mm for hose fitting DN 10/8mm, w/o locking ring	Écrou moleté M 14x1, pour raccord pour tuyau 10/8mm, sans bague de serrage
637657	Klemmring 10mm für Rändelmutter M14x1 (637657)	Locking ring 10mm for knurled nut M14x1 (637657)	Bague de serrage D10 pour écrou moleté M 14x1 (637657)
637658	Passscheibe 10 x 16 x 1	Washer 10 x 16 x 1	Disque 10 x 16 x 1
637661	Distanzscheibe 0,4mm	Shim 0.4mm	Rondelle 0,4mm
637710	Überwurfmutter M35x1,5mm	Union nut M35x1.5mm	Écrou d'accouplement M35x1,5mm
637749	PTFE - Schutzfolie	PTFE protection foil	PTFE ruban de film
637757	Membrane PTFE (klein)	Diaphragm PTFE (small)	Membrane PTFE (petite)
637769	Verkanmutter M5	Square nut M5	Écrou M5
637770	Abdeckung, blau	Cover, blue	Carter de protection, bleu
637778	Flachkopfschraube M5x10mm, Edelstahl	Oval head screw M5x10mm, SS	Vis à tête cylindrique bombée M4 x 10mm

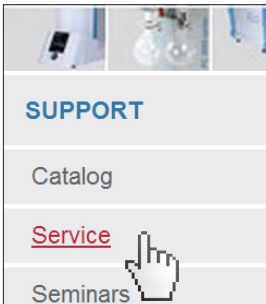
	Tragegriff, blau	Handle, blue	Poignée, bleu
638240	O-Ring, 28mm x 2,5mm, FEP	O-ring, 28mm x 2.5mm, FEP	Joint torique 28mm x 2,5mm, FEP
638304	Ein-/Ausschalter mit Kaltgerätestecker, Einbau	Main switch with instrument socket	Commutateur avec prise femelle
638374	Blindplatte für Ventil Sitz	Blind flange for valve seat	Obturateur pour siège de clapet
638426	VACUU·LAN® - T-Stück für PTFE-Schlauch DN 10/8mm	VACUU·LAN® T-piece for PTFE-hose DN 10/8mm	VACUU·LAN® raccord à visser en T pour tuyaux PTFE DN 10/8mm
638435	Distanzscheibe 0,1mm	Shim 0.1mm	Rondelle 0,1mm
638456	Rundkolben 500ml mit Kugelschliff, beschichtet	Round bottom flask 500ml with spherical joint, coated	Ballon rond 500 ml, revêtu, avec raccord à rodage sphérique
638497	Schlauchbogen, PTFE, 10/8 mm	Bent hose, PTFE, 10/8 mm	Tuyau coudé, PTFE, 10/8 mm
638514	Distanzscheibe 0,2mm	Shim 0.2mm	Rondelle 0,2mm
638545	Distanzscheibe 0,15mm	Shim 0.15mm	Rondelle 0,15mm
638547	Schutzabdeckung Emissionskondensator EK 500	Cover emission condenser EK 500	Couvercle de protection EK 500
638557	Rohrschelle für Emissionskondensator EK 1000 / EK 800 TE	Clamp for emission condenser EK 1000 / EK 800 TE	Anneau de maintien pour EK 1000 / EK 800 TE
638819	Überdruckventilschlauch, Silikon	Overpressure relief valve hose, silicone	Soupape de surpression, silicone
638821	O-Ring, 140mm x 3mm, FPM	O-ring, 140mm x 3mm, FPM	Joint torique, 140mm x 3mm, FPM
639092	Gasballastkappe	Gas ballast cap	Capuchon pour le lest d'air
639223	Senkschraube M4x60mm, Edelstahl	Countersunk screw M4x60mm, stainless steel	Vis à tête fraisée M4x60mm, inox
639725	Winkelverschraubung NPT 1/8, mit PTFE-Schlauchanschluss DN 10/8mm	Elbow fitting NPT 1/8, with connector for PTFE hose DN 10/8mm	Raccord à vis coudé NPT 1/8, pour tuyaux PTFE DN 10/8mm
639795	Überwurfmutter M14x1,5mm	Union nut M14x1.5mm	Ecroû raccord M14x1,5mm
639796	Toleranzring 12x12mm	Tolerance ring 12x12mm	Bague de tolérance 12x12mm
639848	Schlauchwelle DN 10mm für Auslaß Emissionskondensator	Hose nozzle DN 10mm for outlet emission condenser	Embout cannelé DN 10mm (refoulement de condenseur)
639917	Gummipuffer	Rubber foot	Pied caoutchouc

639934	Dichtung PTFE/Silikon GL 18	Sealing ring PTFE/silicone GL 18	Joint PTFE/silicone GL 18
639935	Schraubverbindungskappe GL 18	Union nut GL 18	Ecrou raccord GL 18
639937	Käfigmutter M6	Cage nut M6	Ecrou M6
639947	Schraubverbindungskappe GL 14	Union nut GL 14	Ecrou raccord GL 14
639948	Schlauchwelle DN 6-8mm für Kühlmittel (Emissionskondensator)	Hose nozzle DN 6-8mm for coolant (emission condenser)	Embout cannelé DN 6-8mm
696828	Dichtungssatz für MD 1C, MV 0.5C	Set of diaphragms and valves for MD 1C, MV 0.5C	Set de membranes et clapets pour MD 1C, MV 0.5C
2618126	Schlauchwelle 13/10,5	Hose nozzle 13/10,5	Embout cranté 13/10,5
3110089	Zylinderschraube M5x20mm, Edelstahl	Filister-head screw M5x20mm, stainless steel	Vis à tête cylindrique M5x20mm, inox
3110090	Zylinderschraube M5x25mm, Edelstahl	Filister-head screw M5x25mm, stainless steel	Vis à tête cylindrique M5x25mm, inox
3110096	Zylinderschraube M6x16mm	Filister-head screw M6x16mm	Vis à tête cylindrique M6x16mm
3110099	Zylinderschraube M6x20mm, Edelstahl	Filister-head screw M6x20mm, stainless steel	Vis à tête cylindrique M6x20mm, inox
3110237	Senkschraube M4x8mm, Edelstahl	Countersunk screw M4x8mm, stainless steel	Vis à tête fraisée M4x8mm, inox
3110354	Linsenkopfschraube M3x6mm, Edelstahl	Round head screw M3x6mm, stainless steel	Vis à tête bombée M3x6mm, inox
3110383	Flachkopfschraube M4x8 A2	Oval head screw M4x8 A2	Vis à tête cylindrique bombée M4x8 A2
3110394	Flachkopfschraube M4x6mm, Edelstahl	Oval head screw M4x6mm, stainless steel	Vis à tête cylindrique bombée M4 x 6mm
3110510	Sechskantmutter M6 vern.	Hexagon nut M6, nickel plated	Ecrou hexagonal M6
3110583	Unterlegscheibe 5,3	Washer B 5,3 DIN 125	Rondelle B 5,3 DIN 125
3110584	Unterlegscheibe 6,4mm, Edelstahl	Washer 6.4mm, stainless steel	Rondelle 6,4mm, inox
3110699	Zahnscheibe	Lock washer	Disque denté
3111271	Fächerscheibe A 4,3 vernickelt	Serrated lock washer A 4.3 plated	Rondelle éventail A 4,3 nickelée
3111274	Fächerscheibe A 3,2 verzinkt	Serrated lock washer A 3.2 galvanised	Rondelle éventail A 3,2 zinguée
3120059	Kappe DN 10mm, rot	Cap DN 10mm, red	Bouchon DN 10mm, rouge
3120808	O-Ring, 25mm x 2mm, FPM	O-ring, 25mm x 2mm, FKM	Joint torique, 25mm x 2mm, FPM

8 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.

8.1 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

8.2 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.

8.3 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 form“, duly completed and signed by an authorized person.
4. Send in your product.

9 Health and safety clearance form

Health and safety clearance form



Devices will not be accepted for any handling before we have received this declaration.
Please read and comply with "Notes on return to the factory".
Oil filled pumps: Drain oil prior to shipping absolutely!

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) in contact with the device / which have been pumped:

.....
.....
.....

6. Prior to return to the factory the device has been decontaminated. yes no
Description of the decontamination method and the test / verification procedure:

.....
.....

7. The device is free of hazardous, harmful substances. yes no

8. Protective measures required for VACUUBRAND employees:

.....

9. 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

10. 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 "Return to the factory". 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):.....

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