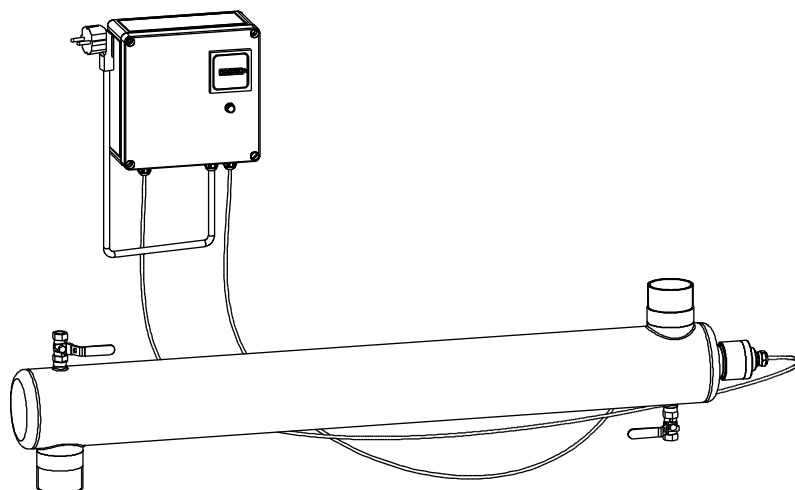


Operation Manual GENO-UV-75 Disinfection Device



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Order no. 100117150000_en_054

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A company certified by TÜV SÜD
in accordance with DIN EN ISO 9001,
DIN EN ISO 14001 and SCC

Table of contents

A General	5
1 Preface	
2 How to use this operation manual	
3 General safety information	
4 Shipping and storage	
5 Disposal	
B Basic information	9
1 Laws, regulations, standards	
2 Disinfecting effect of UV light	
3 Room irradiation	
C Product description.....	11
1 Type plate	
2 Technical specifications	
3 Intended use	
4 Application limits	
5 Scope of supply	
D Installation	16
1 General installation instructions	
2 Preliminary work	
3 How to connect the device	
4 Terminal connection diagram	
E Start-up	20
1 Mounting the protective quartz pipe	
2 Mounting the UV lamp	
F Operation	23
1 Operating panel	
G Faults	24
1 Basic information	
2 Mounting the UV lamp	
3 Mechanical destruction of the lamp	
4 Mechanical destruction of the lamp and the protec- tive quartz pipe	
5 Binding and disposal of free mercury residues	
H Maintenance and care	27
1 Basic information	
2 Inspection and maintenance	
3 Notes on the operation log	
4 Spare parts	
5 Operation log	

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grünbeck



EU Declaration of Conformity

This is to certify that the devices designated below comply with the safety and health requirements of the applicable European Directive in terms of its design, construction and execution.

If the systems are modified in a way not approved by us, this certificate is void.

Manufacturer: Grünbeck Wasseraufbereitung GmbH
Josef-Grünbeck-Str. 1
89420 Hoechstädt, Germany

Responsible for documentation: Markus Poepperl

Description of the system: Disinfection device

Device type: GENO-UV-75


Serial no.: Refer to type plate

Applicable guidelines: EMC (2014/30/EU)
Low Voltage Directive (2014/35/EU)

Applied harmonised standards,
in particular: DIN EN 61000-6-2:2006-03,
DIN EN 61000-6-3:2011-09

Applied national standards
and technical
specifications,
in particular: DIN 19636-100:2008-02

Location, date and signature Hoechstädt, 11.01.2019

p.p. 
M. Pöpperl
Dipl.-Ing. (FH)

Function of signatory: Head of Technical Product Design

A General

1 | Preface

Thank you for opting for a Grünbeck product. Backed by decades of experience in the area of water treatment, we provide customised solutions for all kind of processes.

Drinking water is classified as food and requires particular care. Therefore, always ensure the required hygiene when operating and maintaining systems involved in the drinking water ordinance. This also applies to the treatment of water for industrial use if repercussions for the drinking water cannot completely be excluded.

All Grünbeck systems and devices are made of high-grade materials. This ensures trouble-free operation over many years, provided you treat your water treatment system with the required care. This operation manual assists you with important information. Please read the entire operation manual carefully before installing, operating or servicing the system.

Customer satisfaction is our primary aim, and providing customers with qualified advice is crucial at Grünbeck. If you have any questions concerning this system, possible extensions or general water and waste water treatment, our field service staff, as well as the experts at our headquarters in Hoechststedt, are available to help you.

Advice and assistance For advice and assistance please contact your local representative (refer to www.gruenbeck.com). In case of emergency, please get in touch with our service hotline at +49 9074 41-333. We can connect you with the appropriate expert more quickly if you provide the required system data. To ensure that this information is to hand at all times, please keep the precise equipment data to hand (refer to the type plate in chapter C-1).

2 | How to use this operation manual

This operation manual is intended for the owners/users of our systems. It is divided into several chapters, which are listed in the "Table of contents" on page 2 in alphabetical order. Locate the corresponding chapter on page 2 in order to find the specific information you are looking for.

The headers and page numbers with chapter information make it easier to find your way around in the operating instructions. For longer chapters, begin by opening the first page (e.g. H-1). This provides more detailed information about the chapter content.

3 | General safety information

3.1 Symbols and notes

Important information in this operation manual is characterised by symbols. Please pay particular attention to this information to ensure the hazard-free, safe and efficient handling of the system.



Danger! Failure to adhere to this information will cause serious or life-threatening injuries, extreme damage to property or inadmissible contamination of the drinking water.



Warning! Failure to adhere to this information may cause injuries, damage to property or contamination of the drinking water.



Caution! Failure to adhere to this information may result in damage to the system or other objects.



Note: This symbol characterises information and tips that make your work easier.



Tasks with this symbol may only be performed by Grünbeck's technical service/authorised service company or by persons expressly authorised by Grünbeck.



Tasks with this symbol are only allowed to be performed by trained and qualified electrical experts according to the VDE guidelines or according to the guidelines of a similar local institution.



Tasks with this symbol must be performed by water suppliers or approved installation companies. In Germany, the installation company must be registered in an installation directory of a water supplier as per §12(2) AVBWasserV (German Ordinance on General Conditions for the Supply of Water).

3.2 Operating personnel

Only persons who have read and understood this operation manual are permitted to work on and with the system. The safety instructions in particular are to be strictly adhered to.

3.3 Intended use

The system may only be used for the purpose outlined in the product description (chapter C). The instructions in this operation manual as well as the applicable local guidelines concerning drinking water protection, accident prevention and occupational safety must be adhered to.

In addition, intended use also implies that the system may only be operated when it is in proper working order. Any malfunctions must be repaired at once.

3.4 Protection from water damage



Warning! In order to properly protect the installation site from water damage:

- a) a sufficient floor drain system must be available or
- b) a water stop device (see chapter C Accessories) must be installed.



Warning! Floor drains that discharge to a lifting system do not work in case of a power failure.

3.5 Indication of specific dangers

Danger due to electrical energy! → Do not touch electrical parts with wet hands! Disconnect the system from mains before starting work on electrical parts of the system. Have qualified specialists replace damaged cables immediately.

Danger due to mechanical energy! System parts may be subject to overpressure. Risk of injuries and damage to property due to escaping water and unexpected movement of system parts. → Check pressure pipes regularly. Depressurise the system before starting repair or maintenance work on the system.

Hazardous to health due to contaminated drinking water! → The system should be installed by a specialist company only. Strictly adhere to the operation manual! Ensure that there is sufficient flow. Adhere to the pertinent guidelines when starting up the system after extended periods of service life. Perform inspections and maintenance at the intervals specified!



Note: By concluding a maintenance contract, you ensure that all of the required tasks are performed on time. You may perform the interim inspections yourself.

4 | Shipping and storage



Caution! The system may be damaged by frost or high temperatures. In order to avoid damage of this kind:

Protect from frost during shipping and storage!
Do not install or store the system next to objects which radiate a lot of heat.

The system may only be transported and stored in its original packaging. Ensure that it is handled with care and placed the right side up (as indicated on the packing).

5 | Disposal

Comply with the applicable national regulations.

5.1 Packaging

Dispose of the packaging in an environmentally sound manner.

5.2 Product



If this symbol (crossed out waste bin) is on the product, European Directive 2012/19/EU applies to this product. This means that this product or the electrical and electronic components are not allowed to be disposed of in the household waste.



Dispose of electrical and electronic products or components in an environmentally sound manner.



For information on collection points for your product, contact your municipality, the public waste disposal authority, an authorised body for the disposal of electrical and electronic products or your waste collection service.

B Basic information

1 | Laws, regulations, standards

In the interest of good health, rules cannot be ignored when it comes to the processing of pool water. This operation manual takes into consideration the current regulations and stipulates information that you will need for the safe operation of your water treatment system.

Among other things, the regulations stipulate that

- only approved specialist companies are permitted to make major modifications to the water supply facility.
- That all contact parts are regularly maintained and preventively serviced.
- That the operation manual and the maintenance schedule of the system manufacturer are complied with.

The DIN standard 19643, the Ordinance on Pool Water, stipulates the requirements regarding the pool water quality. The concentrations of the disinfectants dosed as well as the resulting by-products are also indicated therein.



Note: The disinfection system GENO-GENO-UV-75 is designed for the disinfection of pool water and must not be operated in the drinking water sector. They are installed downstream of water treatment systems.

2 | Disinfecting impact of UV light

UV light (ultraviolet) is light with a wavelength between 100 and 380 nm. These wavelengths are below the sensitivity limit (in the invisible range) of the human eye.

For UV disinfection, the wavelength at

254 nm is of particular significance. This wavelength is emitted by low-pressure mercury lamps, which are designed similarly to normal fluorescent lamps.

The disinfecting properties of UV light are due to the fact that light of a wave length of 254 nm is absorbed by the nucleic acids in the genetic material of micro-organisms. The absorption of the high-energy radiation results in the modification of the genetic material (DNA resp. RNA) and leads to an incapability to reproduce.

The intensity of the room irradiation (light dose) required to inactivate micro-organisms depends on the respective species and population. Fungi, spores and algae require a much higher room irradiation than bacteria and viruses.

In the technical regulation W 294 of the DVGW (German Association of the Gas and Water Industry), the minimum room irradiation was specified as 400 J/m². At this room irradiation, a reduction rate of 99.99 % for viruses and bacteria is achieved.

For further and more detailed information, please refer to DVGW worksheet W 294-1.

3 | Room irradiation

The level of room irradiation depends on the irradiation intensity and the duration of irradiation. The irradiation intensity depends, in turn, on the specific absorption coefficient of the water at 254 nm (SSK254). The organic substances (e.g. humic acids) and inorganic salts (e.g. ions of iron, manganese) in the water are of particular importance for UV disinfection, as they absorb the UV light at 254 nm and thus reduce the light transmission. Since the wavelength of 254 nm is in the invisible range, the SSK254 can only be determined using a UV-VIS spectrometer and not with the naked eye.

Furthermore, the irradiation intensity depends on the age of the UV lamps. The output of the UV lamps decreases with increasing operating time. In order to be able to continue to guarantee the required room irradiation, the lamp must therefore be replaced at the end of its service life.

The irradiation duration results from the flow rate and the volume of the GENO-UV-75 disinfection unit.

C Product description

1 | Type plate

The type plate is located on the right of the pressure pipe of the GENO-UV-75 disinfection unit. To speed up the processing of your enquiries or orders, please specify the data shown on the device type plate when contacting Grünbeck. Please copy the indicated information to the table below in order to have it handy whenever necessary.

GENO-UV-75 UV disinfection unit

Serial number: /

Order number: **523 215**


		grünbeck	
		Desinfektionsgerät GENO-UV-75	
Anschlussnennweite	2" (DN 50)	Netzanschluss	230 V / 50-60 Hz
Nominal connection size		Mains supply	
Diamètre nominal de raccord		Raccordement au réseau	
Nenn Durchfluss	2-16 m³/h	Elektrische Anschlussleistung	75 W
Nominal flow		Connected load	
Débit nominal		Puissance électrique consommée	
Nenn Druck	PN 5	Druckverlust bei 15 m³/h	0,01 bar
Nominal pressure		Pressure loss at 15 m³/h	
Pression nominale		perte de pression à 15 m³/h	
Umgebungstemperatur max.	40 °C	Bestell-Nr.	523 215
Ambient temperature max.		Order no.	
Température ambiante, max.		Référence	
Wassertemp. max.	40 °C	Serien-Nr.	
Feed water temperature min./max.		Serial-no.	
Temp. d'eau d'alimentation min./max.		N° de série	
Betriebsanleitung beachten! Operating instructions must be observed! Respecter la notice d'instructions!			
Grünbeck Wasseraufbereitung GmbH Josef-Grünbeck-Str. 1 89420 Hoechstädt www.gruenbeck.com			

Fig. C-1: GENO-UV-75 type plate disinfection unit

2 | Technical specifications

The GENO-UV-75 disinfection unit is used for the continuous disinfection of pool water in private swimming pools.

All device data is summarised in Table C-1. The data given refers to the standard version of the GENO-UV-75 disinfection unit. Possible deviations in case of special versions are communicated separately, if applicable.



Warning! If the GENO-UV-75 disinfection unit fails or is switched off, the pool water and the subsequent piping system can become contaminated with bacterial growth.

Table C-1: Technical specifications		GENO-UV-75 disinfection unit	
Connection data			
Nominal connection diameter		DN / R	DN 50 / R 2“
Min. drain connection		DN	DN 50
Floor drain		DN	DN 100
Power supply		V/Hz	230/50-60
Connected load		VA	75
Max. power input		A	0.35
Protection/protection class		IP 54/⚡	
Installation position		Horizontal (refer to Fig. C-2), inlet at the bottom, outlet at the top	
Performance data			
Nominal pressure		PN 5	
Pressure loss at 15 m³/h		bar	0.01
Flow range		m³/h	2-15
Dimensions and weights			
Installation length		mm	820
Total length		mm	1005
Total height		mm	216
Clearance required on the right/left of the system for UV lamp replacement		mm	950
Distance from wall to centre of connection incl. wall bracket		mm	100
Length of mains cable		mm	1900
Length of UV lamp cable		mm	1500
Length of grounding cable for reactor		mm	1400
Empty weight		kg	9
Volume		l	7
Ambient data			
Inlet water temperature		°C	5-40
Ambient temperature		°C	5-40
Max. relative humidity of air		%	70
Assemblies			
Pressure pipe	Material	1.4404	
Protective quartz pipe	Length	mm	950
	Ø	mm	28
UV lamp	Wattage	W	75
	Max. service life	h	9,000
2 Ball valves	Nominal diameter	DN 8 (¼“)	
	Material	1.4301	
Control unit	h x w x d	mm	180x182x90
Housing	Material	ABS	
Displays		operating hours, LED operation indicator	
Order no.		523 215	

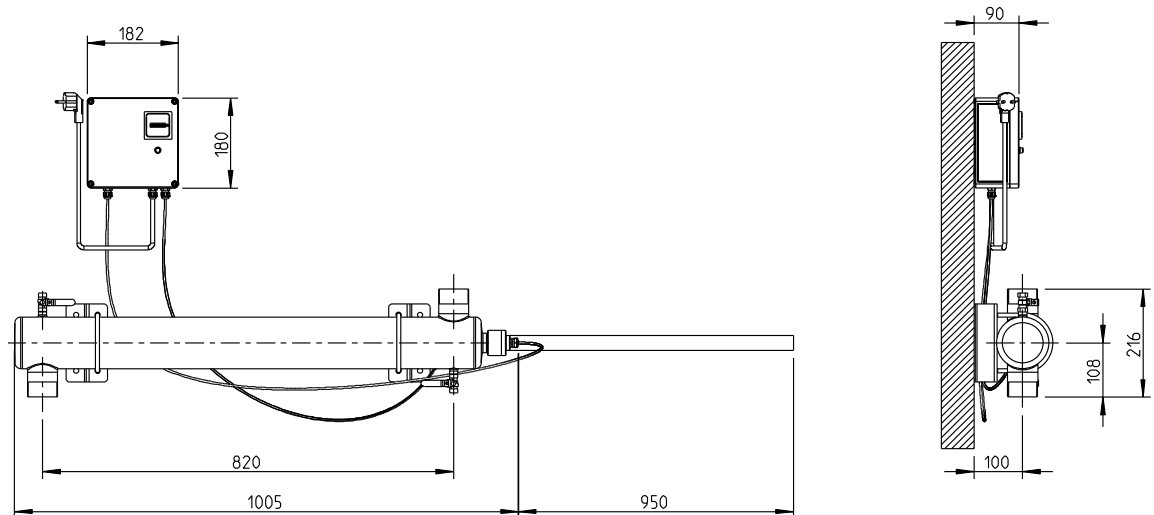


Fig. C-2: Dimensional drawing of GENO-UV-75 with optional wall bracket

3 | Intended use

The GENO-UV-75 UV disinfection unit is designed for the disinfection of pool water and must not be operated for drinking water.

The GENO-UV-75 disinfection unit is installed downstream from the filter system and upstream from the pH value correction and the disinfectant dosing.

The GENO-UV-75 disinfection unit is matched to the water demand and water quality expected during installation. The specified flow rate must be observed.

The prerequisite for the safe disinfection of the water is that it be largely free of turbidity and only suffers minor microbiological contamination. Water containing turbidities or a permanently low or short-time peak load of germs indicating faeces requires a treatment to separate particles.

The systems may only be operated if all components are installed properly. Safety equipment must NEVER be removed, bridged or otherwise tampered with or disabled.

The designated application also includes the information contained in this operation manual and all safety regulations that apply at the installation site being complied with, and the maintenance and inspection intervals being observed.

The GENO-UV-75 disinfection unit is designed exclusively for use in industrial and commercial fields.

4 | Application limits

The flow rate range is between a minimum of 2 m³/h and a maximum of 15 m³/h.



Note: The system may only be used in pool water with a max. chloride concentration of 500 mg/l. This means that it cannot be used in brine pools, for example.

In hard water areas with a total hardness > 14 °dH □ (2.5 mmol/m³) we recommend softening the filling water.

5 | Scope of supply

5.1 Standard equipment

- Control unit with operating LED and operating hour meter.
- UV reactor made of stainless steel 1.4404
- 1 protective quartz pipe with seal and screw connection
- 1 UV lamp



Note: The UV lamps have a special warranty period of a maximum of 4,500 operating hours or 12 months after installation if 4,500 operating hours have not yet been reached.

- Operation manual
- Sealing paste for mounting protective quartz pipe

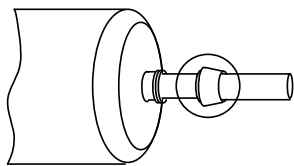
5.2 Accessories

Connection set for the GENO-UV-75 disinfection unit, consisting of:	Order no.
• 2 Stainless steel pipes, each 0.50 m in length, DN 50; flange connection acc. to DIN 2642 (counter flange, seal and screws not included).	335 850
• GENO-UV-75 Wall bracket	523 217
• Flushing kit for UV disinfection system	520 020
• Flushing chemical GENO-clean CP (10 x 1 litre)	170 022
• Protective UV goggles	522 810

5.3 Consumables

Only use genuine consumables to ensure the reliable operation of the unit.	Order no.
• Cleaning agent GENO-Clean CP (10 x 1 litre bottles)	170 022

5.4 Wearing parts



Wearing parts are listed below.

Order no.

- UV lamp 75 W

523 218

- Sealing ring for lamp

520 153



Note: Although this is a wearing part, we grant a limited warranty period of 6 months.

5.5 Spare parts

The following spare parts are available for the GENO-UV units from Grünbeck, Grünbeck's technical service/authorised service company and authorised specialist dealers:



Warning: Use **only** genuine spare parts from Grünbeck for the proper and safe operation of your UV unit. The operational safety of the device can be impaired if spare parts purchased from other manufacturers are used.

D Installation

1 | General installation instructions

The installation site must offer adequate space. The required connections must be provided before the system is installed. For dimensions and connection data, please refer to table D-1.



Note: For the installation of units with optional features (refer to Sect. C-5.2), also observe the operation manuals supplied with these components, if necessary.

1.1 Sanitary installation

Certain binding rules must always be observed when installing the GENO-UV-75 disinfection unit. Additional recommendations are given in order to facilitate working with the device. The installation instructions described below are also illustrated in fig. D-1.

Mandatory regulations



The installation of a GENO-UV-75 disinfection unit is a major intervention in the sanitary installation, and may only be carried out by an approved installation company or by individuals expressly authorised by Grünbeck.

- Please observe the local installation guidelines and the general guidelines.
- The GENO-UV-75 disinfection unit must be installed horizontally with the inlet towards the bottom and the outlet towards the top.
- 0.5 m upstream and downstream of the GENO-UV-75 disinfection unit fit a water pipe made of UV-resistant material (stainless steel). Plastics are not suitable.
- Provide a drain connection (at least DN 50) to discharge the water in the installation room when cleaning or servicing the device.
- The installation site must be frost-proof and feature a floor drain DN 100 or a water stop device



Warning! Floor drains that discharge to a lifting system do not work in case of a power failure.

- Upstream and downstream of the disinfection GENO-UV-75 disinfection unit, shut-off devices have to be fitted.
- If the water supply must not be interrupted, a bypass pipe must be provided.

1.2 Electrical installation

A shock-proof plug is adequate for the electrical connection. It must comply with the specifications given in Table D-1 and is not allowed to be located more than 1.50 m away from the GENO-UV-75 disinfection unit. It must be ensured that the socket is supplied with continuous current and is not connected, for example, with a light switch.

2 | Preliminary work

1. Unpack all components.
2. Check for completeness and proper condition.
3. Set up the device at the predetermined location.



Note: The safest and easiest way to mount the unit is to use the bracket for wall mounting (refer to C-5.2).

3 | How to connect the unit

3.1 Water connection

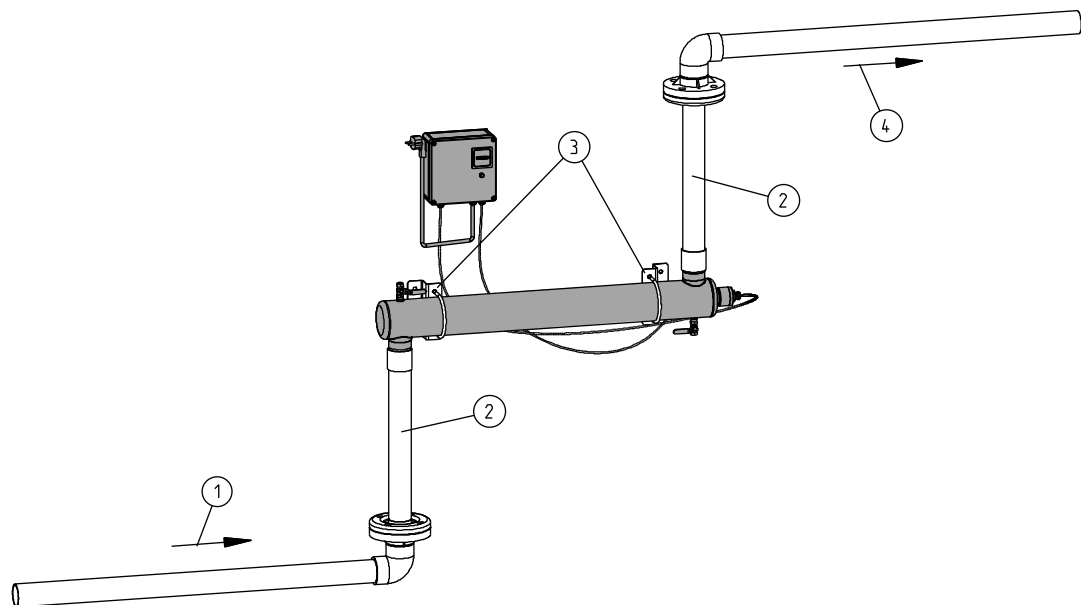
Make the water connection as indicated in the installation drawing (Fig. D-1). Observe the guidelines and recommendations given in section 1.



Note: The device should be mounted horizontally with the outlet facing upwards so that any air accumulations can be removed.



Caution! The devices are only tight with properly installed protective quartz pipes. After mounting the protective quartz pipe, carry out a leak test.



- | | |
|---|---------------------------|
| ① From the filter | ③ Wall bracket (optional) |
| ② Connection kit consisting of stainless steel pipes (optional) | ④ To the dosing point |

Fig. D-1: Installation drawing



Note: A break in the protective quartz pipe can lead to water leaking out.

- 3.2 Electrical connection** The GENO-UV-75 disinfection unit is electrically pre-assembled.
The electrical connections are featured in terminal diagram D-2.
-



The work described here may only be performed by trained electricians or electronics experts.



Danger! Danger due to electrical energy! Do not connect the mains plug to the socket before you have finished this work.



Note: The UV system reactor housing must be connected to the building potential equalisation via a PE cable with a cross-section of 6 mm² - 16 mm².

The diagram illustrates the electrical wiring for a UV-Lamp system. It includes a power supply (230V 50 Hz) connected to a distribution block with terminals L1, N, PE, and Earth. A Hourmeter is connected to L1 and N. A Reactor Vessel is connected to PE. An Electronic Ballast is connected to L1, N, PE, and four output lines (1, 2, 3, 4). These lines are color-coded: white (1), brown (2), green (3), and yellow (4). The ballast is connected to a UV-Lamp. A legend at the bottom right identifies the components: Hourmeter, Reactor Vessel, Electronic Ballast, and UV-Lamp.

Order no. 100117150000_en_054 Author: mal-mrie G:\BA-100117150000_EN_054_GENO-UV-75.DOCX

E Start-up



The work described here should resp. may only be carried out by Grünbeck's technical service/authorised service company or by specialised trained personnel.

1 | Mounting the protective quartz pipe



Caution! When mounting the protective quartz pipe, ensure that it (pos. 2) is inserted into the protective quartz pipe guide inside the stainless steel container. Use the enclosed assembly aid for mounting.



Note: To facilitate mounting, a little sealing paste can be applied inside the seal. This also facilitates disassembly in the event of maintenance or spare parts.



Caution! Care must be taken that no sealing paste is applied in the area of the protective quartz pipe through which the light generated by the UV lamp passes.



Note: Do not overtighten nuts to avoid damaging the quartz glass. Due to the tolerance of the components, sealing the UV unit may be achieved without the stainless steel binder ring (pos. 3) touching the stainless steel container (pos. 1).

1. Unscrew the screw-in part with spacer (pos. 7) from the brass screw connection (pos. 4). Loosen the cable gland of the screw-in part.
2. Unscrew the screw connection (pos. 4) and remove the stainless steel binder ring (pos. 3).
3. Mount the seal (pos. 5) according to the detailed drawing.
4. Apply sealing paste to the seal according to the detailed drawing.
5. Insert the protective quartz pipe (pos. 2) into the pressure pipe (pos. 1) using the auxiliary tool for installing the protective quartz pipe.
6. Ensure that the protective quartz pipe is inserted into the quartz pipe guide inside the UV reactor.
7. Fit the stainless steel binder ring (pos. 3).
8. Hand-tighten the brass screw connection (pos. 4) again.

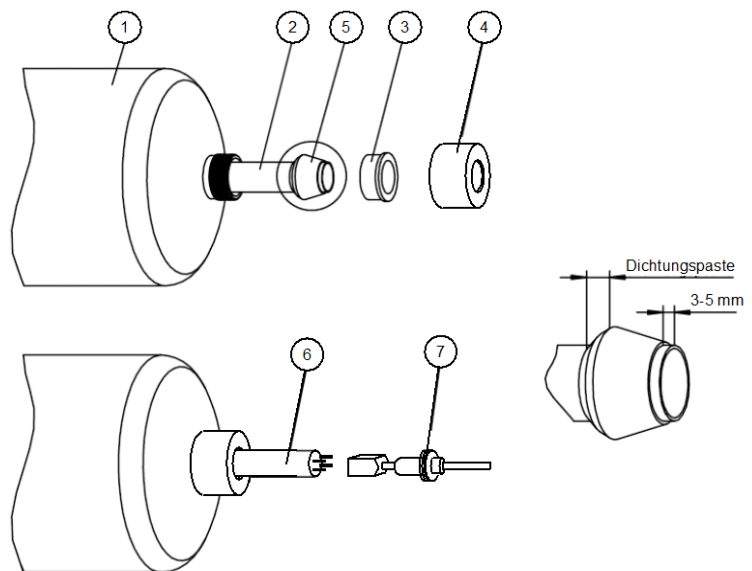


Fig. E-1: Protective quartz pipe assembly drawing

2 | Mounting the UV lamp



Danger! Danger due to electrical energy! Only touch or change lamps when the mains switch is switched off.



Caution! Do not touch the lamp glass with your bare hands. Touching it leads to a reduction in performance.



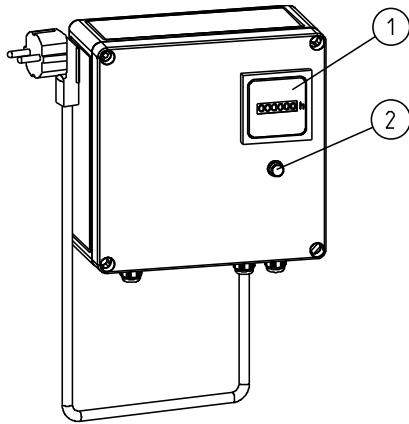
Warning! When the UV unit is switched on, never look directly into the UV lamp with the naked eye. The UV lamp function can only be checked when wearing suitable protective goggles (see accessories Section C-5.2).

2.1 GENO-UV-75 disinfection unit

1. Insert the UV lamp (pos. 6) into the protective quartz pipe (pos. 2) up to approx. 60 mm.
2. Connect the UV lamp (pos. 6) with the plug of the connection cable.
3. Insert the UV lamp (pos. 6) completely.

F Operation

1 | Operating panel



- ① Operating hours meter: Display of the total operating hours
- ② Lamp: When in operation this lamp lights up

Fig. F-1: GENO-UV-75 type plate disinfection unit operating panel

1.1 Start / standard operation

After applying the mains voltage, the UV lamp is ignited. The lamp (pos. 2) lights up. The operating hours meter (pos. 1) starts counting.

1.2 Stop

The GENO-UV-75 disinfection unit is switched off by the mains voltage and the lamp (pos. 2) goes out.



Note: The GENO-UV-75 disinfection unit should not be switched off without reason, as each time it is switched on and off the service life of the UV lamps is reduced. A waiting time of at least 60 seconds must be observed between switching on and off, otherwise the service life of the UV lamps will also be considerably reduced.

G Faults

1 | Basic information

Even carefully designed, manufactured technical systems that are operated properly in line with regulations, can experience malfunctions. Table G-1 provides an overview of the possible faults when operating the GENO-UV-75 disinfection unit, their causes and fault rectification.

The GENO-UV-75 disinfection units monitor the function of the lamp. Faults are analysed using a fault signal contact.



Note: Grünbeck's technical customer service/authorised service company must always be notified in the event of faults that cannot be eliminated with the information given in table G-1! When doing so, please indicate the unit designation, serial number and your own observations if required.

Table G-1: Eliminating errors

This is what you observe	This is the cause	This is what to do
Operating LED off.	<ul style="list-style-type: none"> Power supply has been interrupted (fuse, feed line, mains). 	<ul style="list-style-type: none"> Check feed line and fuse.

2 | Checking the UV lamp

The following instructions must be observed when checking the UV lamps. The work described is illustrated in Fig. E-1.



Danger! due to electrical energy! Only touch or change UV lamps when the GENO-UV system is de-energised.



Warning! When the GENO-UV-75 disinfection unit is switched on, never look directly into the UV lamp with the naked eye. The UV lamp function can only be checked when wearing suitable protective goggles (see accessories Section C-5.2).

1. Switch off the mains switch.
2. Unscrew screw-in part (pos. 7) and pull out UV lamp (pos. 6) approx. 50 mm (refer to Fig. E-1).
3. Switch on the mains switch after waiting 60 seconds.
4. The filament at the lamp connection must start to glow.
5. The UV lamp ignites after a few seconds.
6. Switch off the mains switch.
7. If necessary, replace the defective UV lamp with a replacement UV lamp (refer to accessories).
8. Switch on the mains switch after waiting 60 seconds.
9. If the UV lamp does not start again after a few seconds, contact Grünbeck's technical service/authorised service company.

10. After successful start-up (refer to Chapter F-2), switch off the mains switch. Insert UV lamp (pos. 6) completely and mount screw-in part (pos. 7) (see Fig. E-1) again. Make sure that the connecting cables along the UV lamp point downwards. (Refer to Fig. C-2)
11. Switch the unit back on after waiting 60 seconds.
12. If there is no start, inform Grünbeck's technical service/authorised service company.

3 | Mechanical destruction of the lamp

If the lamp has been mechanically irreparably damaged, the GENO-UV-75 disinfection unit must be disconnected from the water supply and then drained. Afterwards, the lamp protective pipe is removed from the unit and the fragments of the lamp are removed from the protective pipe.

After that, the protective quartz pipe should be replaced or at least thoroughly cleaned with GENO-clean CP, since mercury residues in the protective quartz pipe lead to a considerable impairment of the UV light generated by the lamp.

Free mercury must be bound with suitable agents and disposed of (refer to item 5).



Warning! Since the destruction of a lamp results in the discharge of mercury, the broken fragments of the lamp must be stored in an airtight container until they can be disposed of. The same applies to a replaced protective quartz pipe or to a rinsing agent used for cleaning. For disposal, go to a suitable disposal company (e.g. collection point for problematic substances).

4 | Mechanical destruction of the lamp and the protective quartz pipe

If mechanical destruction of the lamp and the cladding tube has occurred at the same time, the GENO-UV-75 disinfection unit must be disconnected from the mains and dismantled. Remove the fragments of the cladding tube and the lamp through the quartz pipe mounting opening. The water remaining in the unit and the fragments of the quartz pipe must be collected and disposed of properly.

After reassembly, rinse the unit with GENO-clean CP as described in chapter H-2 in order to be able to remove mercury residues from the unit.

Free mercury must be bound with suitable agents and disposed of (refer to item 5).



Warning! Any water in the unit that is contaminated with mercury must be collected and stored in an airtight container until it can be disposed of. The same applies to the rinsing agent used. For disposal, go to a suitable disposal company (e.g. collection point for problematic substances).

5 | Binding and disposal of free mercury residues

If free mercury has leaked from the lamp, it must be bound, collected and taken to a suitable disposal company (e.g. collection point for problematic substances).

Use only commercially available binders such as Mercurisorb (Flucka), Merscurisorb-ROTH® (Roth) or Chemisorb-Hg (Merck), and proceed according to the instructions for use. The implementation with sulphur bloom, iodine carbon or metal powders would take years.

Under no circumstances put mercury residues and their compounds into the sink (amalgam formation in the lead siphon, environmental pollution).

H Maintenance and care

1 | Basic information

In order to guarantee the reliable function of the UV disinfection devices over a long period of time, some maintenance work has to be performed at regular intervals.

- Regular cleaning and flushing of the UV disinfection unit.
- Change the UV lamp at the end of the maximum period of use.

The operation log, which serves to record maintenance work on the UV unit, is attached to this operation manual as an appendix.



Note: Ensure the proper operation of your GENO-UV-75 disinfection unit by means of regular inspection and maintenance. We recommend inspecting the units every 2 months and maintaining the unit every 12 months. Please arrange a maintenance appointment with the Grünbeck field service responsible for your area (refer to www.gruenbeck.com).

Please observe our general warranty conditions. By concluding a maintenance contract you ensure that all necessary maintenance work will be performed in due time.

2 | Inspection and maintenance



Note: Make sure that every inspection and all maintenance work is recorded in the operation log.

2.1 Inspection

You can perform the regular inspection yourself; it is mandatory at least every 2 months. The unit is checked for leaks and impurities and rinsed if necessary.

2.2 Maintenance

Maintenance of the device is due depending on the operating hours. In addition to the inspection work, the UV lamp is replaced if necessary.

2.3 Overview of maintenance work (every 9,000 operating hours)

All inspection work and additionally

- Replace UV lamp (after 9,000 operating hours)
- Check the lamp plug, replace if necessary
- Flush the GENO-UV-75 disinfection unit, if necessary
- Clean protective pipes if necessary
- Check seals, replace if necessary
- Record all data and activities, including repair work, in the operation log
- Hand over the device and operation log to the owner/user

2.4 Flushing the device

Flushing the GENO-UV-75 disinfection unit serves to remove deposits that have settled in it during operation. These deposits are, for example, iron, manganese, copper, lime scale, etc. A flushing kit and a flushing agent (refer to Section C-5.2) are required for flushing.

Scope of supply of the flushing kit:

The flushing kit essentially consists of a container, a pump, hoses and corresponding connection pieces.

The flushing agent GENO-clean CP is an acid mixture developed to remove lime scale, iron, manganese and other residues. Further information can be found in the product and safety data sheet of the flushing chemical.

Flushing is carried out as follows:

- Close shut-off devices in the inlet and outlet
- Decommissioning the UV device
- Connect the flushing kit to flushing valves (inlet at the bottom, outlet at the top)
- Fill the flushing kit with water and add the correct volume of flushing chemical (GENO-clean CP) to the flushing tank (for the volume of chemical, refer to the operation manual of the flushing kit)
- Switch on the flushing pump and flush for min. 30 min., in case of heavy contamination for min. 60 min. Then drain the GENO-UV-75 disinfection unit and neutralise the chemical if necessary
- Flush the GENO-UV-75 disinfection unit several times (3 - 4 x contents of the unit) with clear water through the outlet valve to remove chemical residues.
- Put the GENO-UV-75 disinfection unit back into operation and reopen the shut-off devices at the unit inlet and outlet

3 | Notes on the operation log

The operation log is located in the pocket at the end of this folder. When starting up the device, make sure to record all data on the cover sheet of the operation log and fill in the first column of the checklist.

The service technician of Grünbeck's technical service/authorised service company will fill in another column of the checklist whenever further maintenance is carried out. This document provides evidence of proper maintenance.

4 | Spare parts

You may order spare parts and consumables from your local Grünbeck representative (see www.gruenbeck.com).



Note: For the exact specification of wear and spare parts, refer to chapter C-5.

5 | Operation log

Customer

Name:

.....

Address:

.....

.....

.....

GENO-UV-75 disinfection unit

Serial number

Year of construction:

Installed by

Installed on

Connection data:

(Please check appropriate box)

Drain connection
DIN EN 1717

☐ Yes ☐ No

Floor drain available

☐ Yes ☐ No

Line before disinfection
system

☐ Galvanised

☐ Copper

☐ Plastic

Maintenance work on the GENO-UV-75 disinfection system Checklist

Please enter measured values. Confirm checks with Yes/No or OK or enter repair work performed.

Maintenance performed (date)			
Operating hours			
System checked for tightness			
UV lamp changed			
UV lamp plug checked			
Quartz glass seal checked			
UV device flushed			
Protective quartz pipes checked			
Remarks			
Customer service technician			
Company			
Work time certificate (no.)			
Signature			

Maintenance work on the GENO-UV-75 disinfection system Checklist

Please enter measured values. Confirm checks with Yes/No or OK or enter repair work performed.

Maintenance performed (date)			
Operating hours			
System checked for tightness			
UV lamp changed			
UV lamp plug checked			
Quartz glass seal checked			
UV device flushed			
Protective quartz pipes checked			
Remarks			
Customer service technician			
Company			
Work time certificate (no.)			
Signature			

Maintenance work on the GENO-UV-75 disinfection system Checklist

Please enter measured values. Confirm checks with Yes/No or OK or enter repair work performed.

Maintenance performed (date)			
Operating hours			
System checked for tightness			
UV lamp changed			
UV lamp plug checked			
Quartz glass seal checked			
UV device flushed			
Protective quartz pipes checked			
Remarks			
Customer service technician			
Company			
Work time certificate (no.)			
Signature			

Maintenance work on the GENO-UV-75 disinfection system Checklist

Please enter measured values. Confirm checks with Yes/No or OK or enter repair work performed.

Maintenance performed (date)			
Operating hours			
System checked for tightness			
UV lamp changed			
UV lamp plug checked			
Quartz glass seal checked			
UV device flushed			
Protective quartz pipes checked			
Remarks			
Customer service technician			
Company			
Work time certificate (no.)			
Signature			

Maintenance work on the GENO-UV-75 disinfection system Checklist

Please enter measured values. Confirm checks with Yes/No or OK or enter repair work performed.

Maintenance performed (date)			
Operating hours			
System checked for tightness			
UV lamp changed			
UV lamp plug checked			
Quartz glass seal checked			
UV device flushed			
Protective quartz pipes checked			
Remarks			
Customer service technician			
Company			
Work time certificate (no.)			
Signature			

Maintenance work on the GENO-UV-75 disinfection system Checklist

Please enter measured values. Confirm checks with Yes/No or OK or enter repair work performed.

Maintenance performed (date)			
Operating hours			
System checked for tightness			
UV lamp changed			
UV lamp plug checked			
Quartz glass seal checked			
UV device flushed			
Protective quartz pipes checked			
Remarks			
Customer service technician			
Company			
Work time certificate (no.)			
Signature			