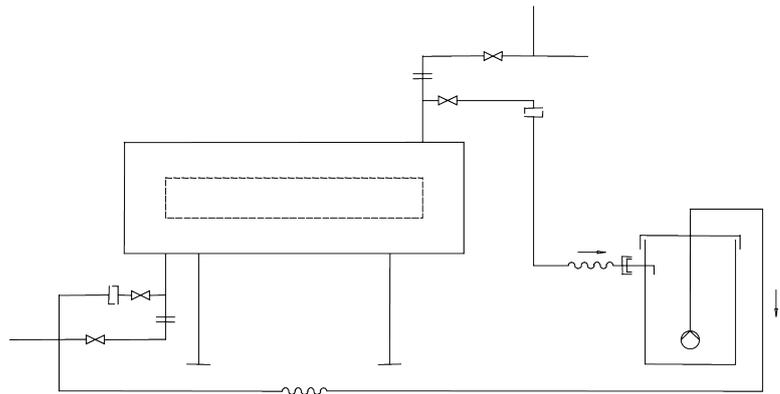


# Operation manual

## Flushing Kit for GENO-UV Systems (Industrial Application)



Edition March 2020  
Order no. 520 949-inter 064

### Grünbeck Wasseraufbereitung GmbH

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

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## EC Declaration of Conformity



This is to certify that the system designated below meets the safety and health requirements of the applicable EC/EU guidelines in terms of its design, construction and execution.

Manufacturer: Grünbeck Wasseraufbereitung GmbH  
Josef-Grünbeck-Straße 1  
89420 Höchstädt/Do.

Responsible for documentation: Markus Pöpperl

System designation: Flushing kit

System type: GENO-UV system

Serial no.: Refer to type designation plate

Applicable guidelines: Machinery Directive (2006/42/EC)  
EMC Directive (2014/30/EU)

Applied harmonised standards,  
in particular: DIN EN 60034-1:2011-02  
DIN EN 60034-5:2007-09  
DIN EN 809:2012-10  
DIN EN ISO 12100:2011-03

Applied national standards  
and technical  
specifications,  
in particular:

Place, date and signature: Höchstädt, 24.03.2020

i. V.

Markus Pöpperl  
Dipl.-Ing. (FH)

Function of signatory: Head of Department for 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 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 supply. 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-quality materials. This ensures reliable operation over many years, provided you treat your water treatment systems with the required care. This operation manual assists you with important information. Therefore, please read the entire operation manual before installing, operating or maintaining the system.

Customer satisfaction is our prime objective and providing customers with qualified advice is crucial. If you have any questions concerning this device, possible extensions or general water and waste water treatment, our field 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 (see [www.gruenbeck.de](http://www.gruenbeck.de)). 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. In order to have the required information available at all times, please keep the system data (refer to the type designation plate in chapter C-1) handy.

## 2 | How to use this operation manual

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

## 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.



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



**Note:** This symbol characterises information and tips to 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 may only be performed by qualified electrical experts according to the VDE guidelines or according to the guidelines of a similar local institution.



Tasks with this symbol may only be performed by water companies or approved installation companies. In Germany, the installation company must be registered in a water company installation directory 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 with the system. The safety guidelines are to be strictly adhered to.

### 3.3 Appropriate application

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

In addition, appropriate application 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



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

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



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**Warning!** In case of a power failure, floor drains with a discharge to a lifting system will be out of operation.

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### 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 experts replace damaged cables immediately.

Danger due to mechanical energy! System parts may be subject to overpressure. Danger of injury 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 may only be installed by a specialist company. The operation manual must be strictly adhered to! Ensure that there is sufficient flow. The pertinent guidelines must be followed for starting-up after extended periods of standstill. Inspections and maintenance must be performed at the intervals specified!

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**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.

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## 4 | Shipping and storage

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

Protect from frost during transportation and storage!

Do not install or store system next to objects which radiate a lot of heat.

---

The system may only be transported and stored in its original packing. 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 friendly manner.

### 5.2 Product



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

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

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

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## B Basic information

### 1 | Laws, regulations, standards

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

### 2 | Deposits, effects, cleaning

The water works provide us with pure drinking water that is suitable for consumption. This water contains substances such as calcium or manganese which are indispensable for the human organism. However, in the GENO-UV system, they may cause deposits which have an adverse effect on the performance of the system.

The deposits consist primarily of calcium carbonate. The calcium carbonate in turn may contain other substances such as iron or copper as well as extremely small particles.

These substances form deposits on the quartz protection tubes and absorb a part of the UV radiation. This means that less disinfecting light can reach the water, i.e. the disinfection performance of the system decreases.

In order to maintain the full disinfection performance of the system, such deposits must be removed.

The cleaning agent, diluted with water, is pumped through the GENO-UV system. The special chemical composition of the cleaning agent removes the deposits. This process takes a certain amount of time. The dissolved substances are then re-moved from the GENO-UV system by means of circulation.

After the cleaning process, the GENO-UV has its full disinfection capacity.



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**Warning!** Chemicals in the drinking water will cause injuries. The chemicals must not reach the drinking water supply system! Be particularly careful when performing work on the drinking water system. Remove the chemicals from the system by flushing the system with lots of fresh drinking water.

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## C Product description

### 1 | Type designation plate

The type designation plate is located at the front side of the tank. Please specify the data shown on the type designation plate when contacting Grünbeck for inquiries or orders. Simply copy the information from the type designation plate to the form below so that all the required information is always available.

**Flushing kit for GENO-UV systems (Industrial Application)**  
**Serial number: n n n n n n**  
**Order number: 520 025**

### 2 | Designated application

The flushing kit for GENO-UV systems (industrial application) is designed to be used for rinsing (cleaning) the following types of systems:

**GENO-UV disinfection systems**

**GENO-UV systems**

**GENO-Chlorominatoren**

**GENO-BREAK Systems**

The flushing kit is used to clean the quartz protection tubes, the inner surface of the pressure pipes and the light sensor surfaces as well as the measuring window. The rinsing intervals and duration depend on the concentration of various substances in the water, in particular iron, manganese and carbonates. These substances cause light-absorbing deposits on the components mentioned above. These deposits adversely affect the disinfection effect of the UV system and must therefore be removed at regular intervals.



**Note:** If your GENO-UV disinfection system is equipped with an intensity monitoring facility, the reduced light intensity indicates when the system needs to be rinsed. At 70% light intensity, the intensity monitoring unit provides a pre-alarm (visible alarm signal), and the system should be rinsed.

If your GENO-UV system features a UV sensor, the radiation intensity message indicates when it is time to rinse the system.

The quartz protection tubes of all systems without monitoring facilities should be inspected at regular intervals (e.g. visual inspection every six months).

Also, the system should be cleaned when the UV lamp is replaced (every 9000 hours of operation).

In order to ensure reliable operation of your system, you should only use the GENO-Clean CP agent to rinse the system.



**Attention!** You may only operate the flushing kit after having completely installed all components. Safety equipment must NEVER be removed, bridged or otherwise tampered with.



**Warning!** Dangerous voltage! If the power cable is damaged, the cleaning agent may be live! Therefore, always check the power cable for damage before using the system.

Appropriate application of the system also implies that the information contained in this manual and all safety guidelines applying at the installation site are observed.

The product flushing kit for GENO-UV systems (industrial application) is designed exclusively for use in industrial and commercial applications.

### 3 | Technical specifications

The flushing kit is used to rinse (clean) the following types of facilities: GENO-UV systems, GENO-Chlorominators and GENO-BREAK systems.

All system data is summarised in table C-1. The data given refers to standard flushing kits. Possible deviations in case of special versions are communicated separately, if applicable.

Table C-1: Technical specifications	Flushing kit for GENO-UV systems Industrial application
<b>Connection data</b>	
Nominal connection diameter	R ¼", R ½", R ¾"
Min. drain connection	DN 50
Power supply [V]/[Hz]	230 / 50
Connected load [W]	300
Protection type/class	IP 68/□
<b>Performance data</b>	
Capacity [m³/h]	9
Pumping height Hmax. [m Ws]	6.5
<b>Dimensions and weights</b> [mm]	
Tank size H x Ø [mm]	670 x 480
Hose length [m]	2 x 3.5
Volume [l]	80
Weight (empty) [kg]	8
<b>Environmental data</b>	
Max. water/ambient temperature [°C]	30/40
<b>Order no.</b>	<b>520 025</b>

## 4 | Scope of supply

- 1 plastic tank with cover 80 l
  - 1 submersible pump
  - connection kit for systems with bottom inlet and outlet
  - 2 hoses, 3.5 m each
  - 3 sets of GK-couplings R ¼", R ½", R ¾"
  - 1 operation manual
- 

## 5 | Cleaning agent

Only use genuine cleaning agent in order to ensure the reliable operation of the system.

Cleaning agent GENO-Clean CP  
(10 x 1 litre bottles)

Order no.  
170 022

---



**Warning!** GENO-Clean CP irritates the eyes and the skin. Use safety equipment (gloves and goggles) in order to avoid injuries.

Observe all information provided on the bottle label!

---

## D Installation and operation

### 1 | Installation

1. Unpack all system components.
2. Check for completeness and soundness.
3. Mount the ball valve at the bottom tank outlet.
4. Mount the GK couplings with male thread at the rinsing valves of your system.



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**Note:** Systems featuring a bottom inlet and outlet are equipped with an automatic deaeration valve. A hose for connection to the drain is mounted to this valve. The connection kit (T piece with GK couplings) is to be connected to this drain hose by means of the hose connector. In addition, the T piece is to be connected to the rinsing valve at the outlet of your system.

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### 2 | Flushing of the GENO-UV system (refer to fig. D-1)

1. Switch off the system (item 1) via the main switch (see instruction manual for the system).
2. Close the shut-off fittings (items 2 and 3).



---

**Note:** If the water supply must not be interrupted, a bypass which can be removed (or shut off and emptied) must be provided.

---

3. Mount the pump hose to the bottom rinsing valve (item 5).



---

**Note:** Route the pump hose and the electrical supply cable for the pump through the opening in the tank cover.

---

4. Mount the return hose to the top rinsing valve (item 4) or the T piece.
5. Mount the return hose to the top tank inlet.



---

**Warning!** Dangerous voltage! If the power cable is damaged, the cleaning agent may be live! Therefore, always check the power cable for damage before using the system.

---

6. Fill the tank up to a level of approx. 50% (approx. 40 l).
7. Plug the power cable (10m) of the pump (item 6) into a grounded outlet.
8. Open the rinsing valves (items 4 and 5).
9. Slowly fill the GENO-Clean CP cleaning agent into the tank (depending on the system type, refer to table D-1).



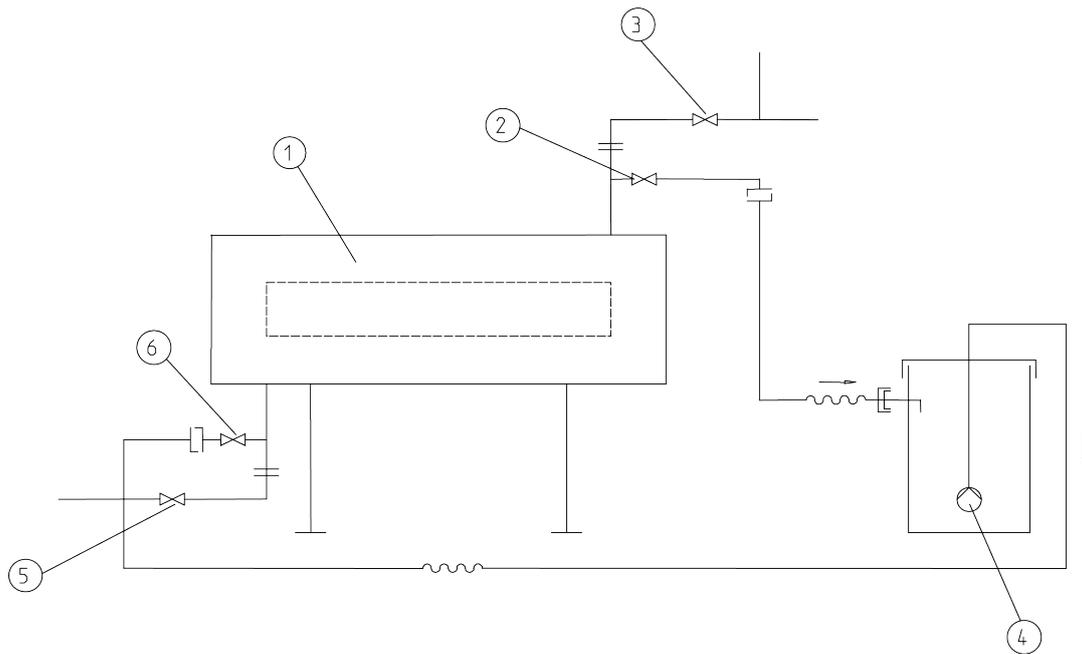
**Warning!** GENO-Clean CP irritates the eyes and the skin. Always wear gloves and goggles when handling the agent.  
Observe all information provided on the bottle label!

Table D-1: Required GENO-Clean-CP volume			
GENO-UV disinfection system type	System volume approx. [l]	Water volume [l]	Volume GENO-UV-Clean CP [l]
GENO-UV disinfection system 001-H	45	85	9
GENO-UV disinfection system 103-H	67	107	11
GENO-UV disinfection system 104-H	67	107	11
GENO-UV disinfection system 105-H	210	250	25
GENO-UV disinfection system 106-H	235	275	28
GENO-UV disinfection system 109-H	265	305	31
GENO-UV disinfection system 001-L	8	48	5
GENO-UV disinfection system 103-L	18	58	6
GENO-UV disinfection system 107-L	40	80	8
GENO-UV disinfection system 213-L	75	115	12
GENO-UV disinfection system 219-L	135	175	18
GENO-UV-M2/115 S	82	122	12
GENO-UV-M3/115 S	123	163	16
GENO-UV-M4/115 S	164	204	20
GENO-UV-M5/115 S	205	245	25
GENO-Chlorominator Typ III/5 bzw. III/5 E	45	85	9
GENO-Chlorominator Typ III/10 bzw. III/10 E	100	140	14
GENO-Chlorominator Typ III/15 bzw. III/15 E	175	215	22
GENO-Chlorominator Typ III/20 bzw. III/20 E	175	215	22
GENO-Chlorominator Typ III/30 bzw. III/30 E	175	215	22
GENO-Chlorominator Typ III/40 bzw. III/40 E	250	290	29
GENO-Chlorominator Typ III/50 bzw. III/50 E	250	290	29
GENO-Chlorominator Typ III/60 bzw. III/60 E	250	290	29
GENO-BREAK-System Typ 8	25	65	7
GENO-BREAK-System Typ 16	50	90	9
GENO-BREAK-System Typ 24	75	115	12
GENO-BREAK-System II	25	65	7
GENO-BREAK-System II S	25	65	7
GENO-Break System III und III LOG	25	65	7
GENO-Break System IV	30	70	7
GENO-UV-115 S	41	81	9
GENO-UV 60 I	10	50	5
GENO-UV 120 I	16	56	6
GENO-UV 200 I	21	61	6
GENO-UV M2/200 S	80	120	12
GENO-UV M3/200 S	120	160	16
GENO-UV M4/200 S	160	200	20
GENO-UV M5/200 S	200	240	24

10. Pump the cleaning agent through the system (circulate) for a period of 30 to 60 minutes.



**Note:** The rinsing duration depends on the degree of pollution.



- |   |                       |   |                   |
|---|-----------------------|---|-------------------|
| ① | GENO-UV system        | ⊕ | Screw connections |
| ② | Rinsing valve         | ⊔ | Coupling          |
| ③ | Shut-off valve outlet | ⊕ | Flange connection |
| ④ | Pump                  |   |                   |
| ⑤ | Shut-off valve inlet  |   |                   |
| ⑥ | Rinsing valve         |   |                   |

Fig. D-1: Installation drawing

11. Disconnect the pump (item 6).
12. Discharge the cleaning agent. If necessary, neutralise the system to pH 7 with GENO-Neutralisation agent.
13. Rinse the system, the pump and the hoses with fresh water.
14. Close the rinsing valve (item 5).



**Warning!** Chemicals in the drinking water will cause injuries. The chemicals must not reach the drinking water supply system! Take special care when working with drinking water systems. For a thorough removal of the chemicals rinse with plenty of fresh drinking water.

15. Open the shut-off valve at the inlet (item 2) and discharge the remainder of the cleaning agent into the drain via the rinsing valve (item 4).
16. Close the rinsing valve (item 4).
17. Switch on the system via the main switch.
18. Open the shut-off valve at the outlet (item 3).
19. Open the nearest water withdrawal point (tap) for a few minutes