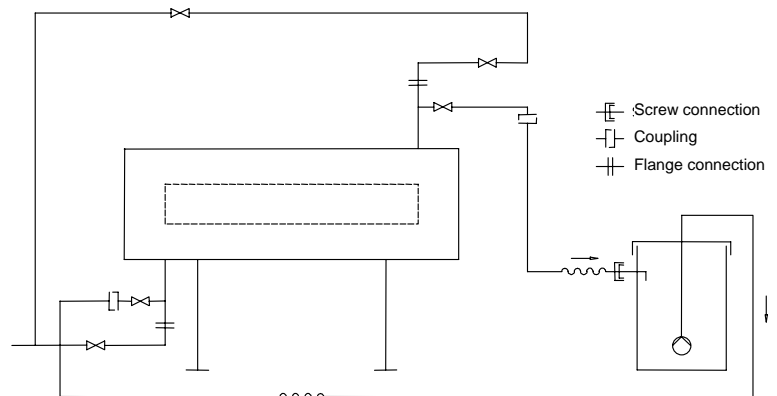


# Operating Instructions Flushing Set for GENO<sup>®</sup>-UV Systems (Industrial Application)



Version 11/2002  
Order no. 024 520 949-gb

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DIN EN ISO 9001, DIN EN ISO 14001,  
DIN EN ISO 13485 and SCC  
certified company (TÜV SÜD)

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## Publisher's information

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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 European guidelines in terms of its design, construction and execution.

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

System designation: Flushing Set for GENO<sup>®</sup>-UV systems (Industrial Application)


System type: \_\_\_\_\_

System number: see type designation plate

Applicable EC guidelines: EC Machines Guideline (98/37/EG)  
EC Guideline EMC (89/336/EWG ver. 92/31/EWG)  
EC Low Voltage Guideline (73/23/EWG and 93/68/EWG)

Applied harmonized norms, in particular: DIN EN 292-1 and DIN EN 292-2  
EN 60 335-1:1988, EN 60 335-2-41:1990 + A1:1994,  
EN 55 014:1993, EN 55 104:1995,  
EN 61 000-3-2:1995, EN 61 000-3-3:1995,  
1<sup>st</sup> Guideline on Device Safety  
of June 11, 1979 (BGB1)

Applied national norms and technical specifications, in particular: DIN 31000/VDE 1000 (03.79)  
\_\_\_\_\_

Date / Signature of manufacturer: 29.05.01 b. r.   
M. Pöpperl  
Dipl.-Ing.(FH)

Title of signer: Head of Department Construction Series Products

## **A General Information**

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### 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 processes.

All Grünbeck systems and devices are made of high-quality materials. This ensures reliable operation over many years, provided you treat the systems with the required care. This instruction manual assists you with important information. Therefore, read the complete manual before installing, operating or maintaining your system.

Customer satisfaction is our prime objective and providing customers with qualified advice is crucial. If you have any questions concerning this system, possible extensions or general water and waste water treatment, our customer service staff, as well as the experts at our site in Höchstädt, are available to help you.

**Advice and assistance** For advice and assistance contact the representative for your area (refer to the list enclosed). In case of emergency, call our Service Hotline at +49-9074-41-333. We can connect you with the appropriate expert quickly if you provide the required system data. Please copy the data shown on the type designation plate to the overview on page C-1 so that it will be available when you need it.

### 2 Warranty

All devices and systems supplied by Grünbeck Wasseraufbereitung GmbH are manufactured according to the most recent technical standards and subjected to comprehensive quality assurance procedures. All warranty claims are subject to our General Terms and Conditions.

### 3 General safety information

Operators

Only persons who have read and understood this instruction manual are permitted to work with the system. The safety guidelines are to be strictly adhered to.

Symbols and notes

Important notes in this instruction manual are highlighted by symbols. Please pay particular attention to these notes to ensure hazard-free, safe and productive system operation.



**Danger!** Failure to adhere to these notes will cause serious or life-threatening injury, extreme damage to property or inadmissible contamination of drinking water.



**Warning!** Failure to adhere to these notes may cause injury, damage to property or contamination of the drinking water.



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



**Note:** This symbol characterizes notes and tips to make your work easier.



Tasks with this symbol may only be performed by Grünbeck's customer service or by persons expressly authorized 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 the local water works or an approved installation company.

### 4 Transportation and storage



**Attention!** The system may be damaged by frost or high temperatures. In order to avoid damage of this kind, protect the system from frost during transportation and storage! Do not install or store system next to heat-emitting objects.

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

## **B Basic Information (Flushing Set for GENO<sup>®</sup>-UV Systems)**

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### 1 Legislation, guidelines, norms

When handling drinking water, you must observe all pertinent laws, guidelines and norms in order to keep hygienic standards and protect the health of the consumers. This manual considers all the pertinent German regulations and provides all the information required for the safe operation of the flushing set.

### 2 Deposits, effects, cleaning

The utilities companies supply us with clean drinking water. This water contains substances such as calcium or manganese which are indispensable for the human organism. However, in the GENO<sup>®</sup>-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<sup>®</sup>-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 removed from the GENO<sup>®</sup>-UV system by means of circulation.

After the cleaning process, the GENO<sup>®</sup>-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 (Flushing Set for GENO<sup>®</sup>-UV systems (Industrial Application))**

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### 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.

<b>Flushing Set for GENO<sup>®</sup>-UV systems (Industrial Application)</b>
<b>Serial number:</b> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> / <input type="text"/>
<b>Order number: 520 025</b>

### 2 Appropriate application

The flushing set for GENO<sup>®</sup>-UV systems (industrial application) is designed to be used for rinsing (cleaning) the following types of systems:

**GENO<sup>®</sup>-UV disinfection systems**

**GENO<sup>®</sup>-UV systems**

**GENO<sup>®</sup>-Chlorominators**

**GENO<sup>®</sup>-BREAK systems**

The flushing set 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<sup>®</sup>-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<sup>®</sup>-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<sup>®</sup>-Clean CP agent to rinse the system.



**Attention!** You may only operate the flushing set after having completely installed all components. Never bridge any safety devices or tamper with the system in any other way.



**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 be observed.

### 3 Technical specifications

The flushing set is used to rinse (clean) the following types of facilities: GENO<sup>®</sup>-UV systems, GENO<sup>®</sup>-Chlorominators and GENO<sup>®</sup>-BREAK systems.

Table C 1 summarises all system specifications. This information relates to the standard versions of the systems. If you have a special system version, you have received information on differing specifications.

Table C-1: Technical specifications	Flushing Set 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	IP 68
<b>Performance data</b>	
Capacity [m³/h]	9
Pumping height Hmax. [m WC]	6.5
<b>Dimensions and weights [mm]</b>	
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 Supplied components

- 1 plastic tank with cover 80 l
- 1 centrifugal pump
- Connection set for systems with bottom inlet and outlet
- 2 hoses, 3.5 m each
- 3 sets of couplings R ¼", R ½", R ¾"
- 1 instruction manual

#### 5 Cleaning agent

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

- Cleaning agent GENO®-Clean CP 170 022  
(10 x 1 litre bottle)



**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!

## **D Installation and operation (Flushing Set for GENO<sup>®</sup>-UV systems (Industrial Applications))**

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### **1 Installation**

1. Unpack all system components.
2. Make sure you've received all components. Check for transportation damage.
3. Mount the ball valve to the bottom tank outlet.
4. Mount the GK couplings with male thread to the rinsing valves at your system.



**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 set (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 Cleaning the GENO<sup>®</sup>-UV system (see 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).
3. Open the bypass (item 7) if the water flow must not be interrupted.
4. 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.

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5. Mount the return hose to the top rinsing valve (item 4) or the T piece.
6. 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.

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



**Warning!** GENO<sup>®</sup>-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 <sup>®</sup> -Clean-CP volume		GENO <sup>®</sup> -UV system type	
Type	System volume approx.	Water volume	GENO <sup>®</sup> -UV-Clean CP volume
GENO <sup>®</sup> -UV Disinfection System 001-H	45	85	9
GENO <sup>®</sup> -UV Disinfection System 103-H	67	107	11
GENO <sup>®</sup> -UV Disinfection System 104-H	67	107	11
GENO <sup>®</sup> -UV Disinfection System 105-H	210	250	25
GENO <sup>®</sup> -UV Disinfection System 106-H	235	275	28
GENO <sup>®</sup> -UV Disinfection System 109-H	265	305	31
GENO <sup>®</sup> -UV Disinfection System 001-L	8	48	5
GENO <sup>®</sup> -UV Disinfection System 103-L	18	58	6
GENO <sup>®</sup> -UV Disinfection System 107-L	40	80	8
GENO <sup>®</sup> -UV Disinfection System 213-L	75	115	12
GENO <sup>®</sup> -UV Disinfection System 219-L	135	175	18
GENO <sup>®</sup> -UV-M2/115 S	82	122	12
GENO <sup>®</sup> -UV-M3/115 S	123	143	14
GENO <sup>®</sup> -UV-M4/115 S	164	204	20
GENO <sup>®</sup> -UV-M5/115 S	205	245	25
GENO <sup>®</sup> -Chlorinator Type III/5 or III/5 E	45	85	9
GENO <sup>®</sup> -Chlorinator Type III/10 or III/10 E	100	140	14
GENO <sup>®</sup> -Chlorinator Type III/15 or III/15 E	175	215	22
GENO <sup>®</sup> -Chlorinator Type III/20 or III/20 E	175	215	22
GENO <sup>®</sup> -Chlorinator Type III/30 or III/30 E	175	215	22
GENO <sup>®</sup> -Chlorinator Type III/40 or III/40 E	250	290	29
GENO <sup>®</sup> -Chlorinator Type III/50 or III/50 E	250	290	29
GENO <sup>®</sup> -Chlorinator Type III/60 or III/60 E	250	290	29
GENO <sup>®</sup> -BREAK System Type 8	25	65	7
GENO <sup>®</sup> -BREAK System Type 16	50	90	9
GENO <sup>®</sup> -BREAK System Type 24	75	115	12
GENO <sup>®</sup> -BREAK System II	25	65	7
GENO <sup>®</sup> -BREAK System II S	25	65	7

11. 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.

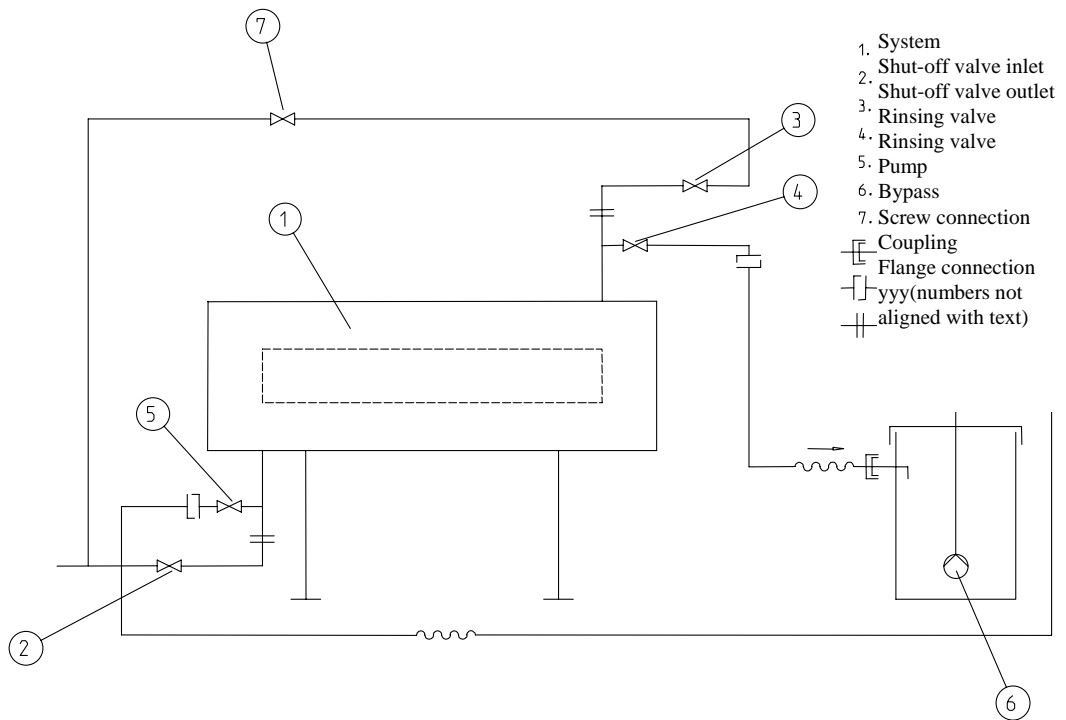


Fig. D-1: Installation drawing

12. Disconnect the pump (item 6).
13. Discharge the cleaning agent. If necessary, neutralise the system to pH 7 with GENO®-Neutralisation agent.
14. Rinse the system, the pump and the hoses with fresh water.
15. 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! 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.

16. 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).
17. Close the rinsing valve (item 4).
18. Switch on the system via the main switch.
19. Open the shut-off valve at the outlet (item 3) and close the bypass (item 7).
20. Open the closest removal point (tap) in the vicinity for a number of minutes.

