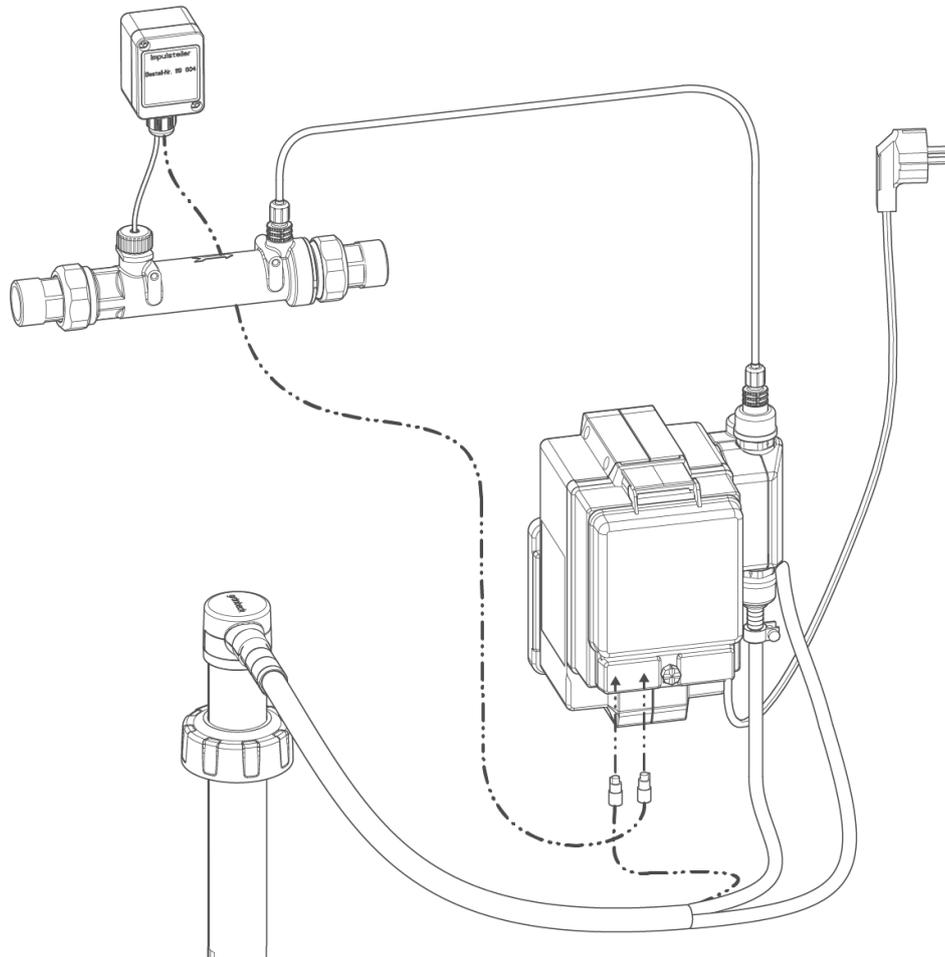


We understand water.



Dosing system | GENODOS DME 6 – 100 /  
GENODOS DME Delta-p

Operation manual

grünbeck

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**Original operation manual**  
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# 1 Introduction

This manual is intended for owners/operators/operating companies, users as well as qualified specialists and ensures the safe and efficient handling of the product. The manual is an integral part of the product.

- ▶ Carefully read this manual and the included manuals on the components before you operate your product.
- ▶ Obey all safety and handling instructions.
- ▶ Keep this manual and all other applicable documents, so that they are available when needed.

Illustrations in this manual are for basic understanding and can differ from the actual design.

## 1.1 Validity of the manual

This manual applies to the products below:

- Dosing system GENODOS DME 6
- Dosing system GENODOS DME 10
- Dosing system GENODOS DME 20
- Dosing system GENODOS DME 30
- Dosing system GENODOS DME 80
- Dosing system GENODOS DME 100
- Dosing system GENODOS DME Delta-p
- Special designs that essentially correspond to the standard products given above. For information on changes, please refer to the respective information sheet that is enclosed, if applicable.

## 1.2 Other applicable documents

- Operation manual of GENODOS pump GP
- Technical Information on accessories for GENODOS pump GP
- Safety data sheets for exaliQ mineral solutions

In addition for GENODOS DME Delta-p

- Mounting instructions for insert, order no. 100104560000
- Mounting instructions for pulse cable, order no. 100103810000
- Operation manual and technical service manual of Delta-p/Delta-p-I
- Electric circuit diagram for GENO-IONO-matic<sub>3</sub> for Delta-p

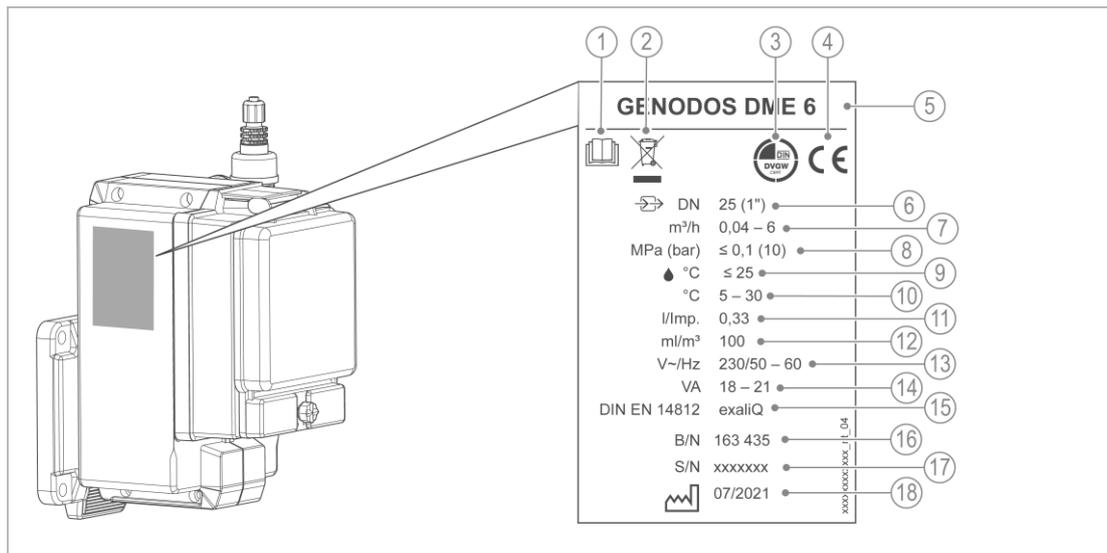
### 1.3 Product identification

You can identify your product based on the product designation and the order no. indicated on the type plate.

- ▶ Check whether the products indicated in chapter 1.1 correspond to your product.

The type plate is located on the side of the GENODOS dosing pump GP.

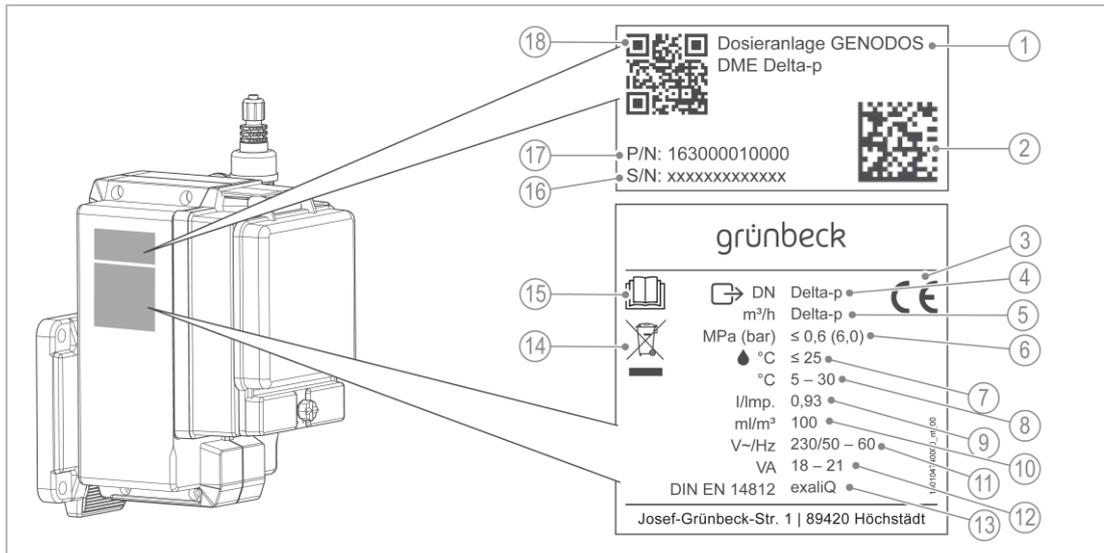
#### 1.3.1 Dosing systems GENODOS DME 6 – 100



Designation	
1	Obey the operation manual
2	Disposal information
3	DVGW test mark
4	CE mark
5	Product designation
6	Nominal connection diameter
7	Operating range
8	Operating pressure
9	Drinking water temperature

Designation	
10	Water/ambient temperature
11	Pulse sequence
12	Dosing volume
13	Power supply
14	Power input
15	DIN EN 14812 compliance as suitable dosing agent
16	Order no.
17	Serial no.
18	Date of manufacture

### 1.3.2 Dosing system GENODOS DME Delta-p



Designation	
1	Product designation
2	Data matrix code
3	CE mark
4	Nominal connection diameter
5	Operating range
6	Operating pressure
7	Drinking water temperature
8	Water/ambient temperature:
9	Pulse sequence

Designation	
10	Dosing volume
11	Power supply
12	Power input
13	DIN EN 14812 compliance as suitable dosing agent
14	Disposal information
15	Obey the operation manual
16	Serial no.
17	Order no.
18	QR code

## 1.4 Symbols used

Symbol	Meaning
	Danger and risk
	Important information or requirement
	Useful information or tip
	Written documentation required
	Reference to further documents
	Work that must be carried out by qualified specialists only
	Work that must be carried out by qualified electricians only
	Work that must be carried out by technical service personnel only

## 1.5 Depiction of warnings

This manual contains information and instructions that you must obey for your personal safety. The information and instructions are highlighted by a warning symbol and are structured as shown below:



**SIGNAL WORD** Type and source of hazard

- Possible consequences
- ▶ Preventive measures

The signal words below are defined subject to the degree of danger and might be used in the present document:

Warning symbol and signal word	Consequences if the information/instructions are ignored	
 <b>DANGER</b>		Death or serious injuries
 <b>WARNING</b>	Personal injury	Possible death or serious injuries
 <b>CAUTION</b>		Possible moderate or minor injuries
<b>NOTE</b>	Damage to property	Possible damage to components, the product and/or its functions, or an object in its vicinity

## 1.6 Demands on personnel

During the individual phases in the service life of the system, different persons carry out work on the system. This work requires different qualifications.

### 1.6.1 Qualification of personnel

Personnel	Requirements
User	<ul style="list-style-type: none"> <li>No special expertise required</li> <li>Knowledge of the tasks assigned</li> <li>Knowledge of possible dangers in case of incorrect behaviour</li> <li>Knowledge of the required protective equipment and protective measures</li> <li>Knowledge of residual risks</li> </ul>
Owner/operator/ operating company	<ul style="list-style-type: none"> <li>Product-specific expertise</li> <li>Knowledge of statutory regulations on work safety and accident prevention</li> </ul>
Qualified specialist <ul style="list-style-type: none"> <li>Electrical engineering</li> <li>Sanitary engineering (HVAC and plumbing)</li> <li>Transport</li> </ul>	<ul style="list-style-type: none"> <li>Professional training</li> <li>Knowledge of relevant standards and regulations</li> <li>Knowledge of detection and prevention of potential hazards</li> <li>Knowledge of statutory regulations on accident prevention</li> </ul>
Technical service (Grünbeck's technical service/authorised service company)	<ul style="list-style-type: none"> <li>Extended product-specific expertise</li> <li>Trained by Grünbeck</li> </ul>

### 1.6.2 Authorisations of personnel

The table below describes which tasks may be carried out by whom.

	User	Owner/ operator/ operating company	Qualified specialist	Technical service
Transport and storage		X	X	X
Installation and mounting			X	X
Start-up/commissioning			X	X
Operation and handling	X	X	X	X
Cleaning	X	X	X	X
Inspection	X	X	X	X
Maintenance			X	X
semi-annually			X	X
annually			X	X
Troubleshooting	X	X	X	X
Repair			X	X
Decommissioning and restart/recommissioning		X	X	X
Dismantling and disposal		X	X	X

### 1.6.3 Personal protective equipment

- ▶ As an owner/operator/operating company, make sure that the required personal protective equipment is available.

The components below fall under the heading of personal protective equipment (PPE):



Protective gloves



Protective footwear



Protective overall



Safety goggles



Protective apron



Mask

## 2 Safety

### 2.1 Safety measures

- Only operate your product if all components are installed properly.
- Obey the local regulations on drinking water protection, accident prevention and occupational safety.
- Do not make any changes, alterations, extensions or program changes on your product.
- Only use genuine spare parts for maintenance or repair.
- Keep the premises locked against unauthorised access to protect imperilled or untrained persons from residual risks.
- Comply with the maintenance intervals (refer to chapter 8.2). Failure to comply can result in the microbiological contamination of your drinking water system.
- Be aware of a possible slip hazard due to leaking water on the floor.

#### 2.1.1 Mechanical hazards

- You must never remove, bridge, or otherwise tamper with safety equipment.
- For all work on the system that cannot be carried out from the ground, use stable, safe and self-standing access aids (e.g. stepladders).
- Make sure that the system is set up in a way that it cannot tip over and that the stability of the system is guaranteed at all times.

#### 2.1.2 Pressure-related hazards

- Components can be under pressure. There is a risk of injuries and damage to property due to escaping water and unexpected movement of components. Check the system's pressure lines for leaks at regular intervals.
- Before starting any repair and maintenance work, make sure that all affected components are depressurised.

#### 2.1.3 Electrical hazards

There is an immediate danger of fatal injury from electric shock when touching live parts. Damage to the insulation or individual components can be life-threatening.

- Only have qualified electricians carry out electrical work on the system.
- In case of damage to live components, switch off the voltage supply immediately and arrange for repair.
- Switch off the supply voltage before working on electrical system parts. Discharge residual voltage.

- Never bridge electrical fuses. Do not disable fuses. Use the correct current ratings when replacing fuses.
- Keep moisture away from live parts. Moisture can cause short-circuits.

#### 2.1.4 Danger due to chemicals

- Chemicals can be hazardous to health and environment. They can cause chemical burns to skin and eyes as well as irritation of the respiratory tract or allergic reactions.
- Avoid any skin/eye contact with chemicals.
- Use personal protective equipment.
- Read the safety data sheet before handling chemicals. Obey the instructions for different activities/situations.
- Current safety data sheets for chemicals are available for download at **[www.gruenbeck.de/en/info-centre/safety-data-sheets](http://www.gruenbeck.de/en/info-centre/safety-data-sheets)**.
- Obey in-house instructions when handling chemicals. Make sure that protective and emergency equipment such as emergency showers and eyewash are available where required, and functional.

##### **Mixing and residual amounts of chemicals**

- Do not mix different chemicals. Unforeseeable chemical reactions posing a lethal danger can occur.
- Dispose of residual amounts of chemicals in accordance with local regulations and/or in-house instructions.
- Residual amounts from used canisters should not be transferred into canisters with fresh chemicals in order not to impair the effectiveness of the chemicals.

##### **Labelling/Minimum shelf life/Storage of chemicals**

- Check the labelling of the chemicals. Chemical labels must not be removed or made illegible.
- Do not use any unknown chemicals.
- Comply with the use-by date (minimum shelf life) stated on the label.
- If stored incorrectly, chemicals could change their state of matter, crystallize, outgas, or lose their effectiveness. Store and use the chemicals at the indicated temperatures only.

##### **Cleaning/Disposal**

- Immediately absorb leaked chemicals with suitable binding agents.
- Collect and dispose of chemicals in such a way that they cannot pose any risks to people, animals, or the environment.

### 2.1.5 Groups of persons requiring protection

- This product must not be used by persons (including children) with limited abilities, lack of experience or knowledge.
- Children should be supervised to make sure that they do not play with the product.
- Cleaning and maintenance must not be carried out by children.

## 2.2 Product-specific safety instructions

- ▶ Always route lines such as dosing hose, mains cable, pulse connecting cable and suction line away from traffic routes in order to prevent tripping and tearing them off.
- ▶ Secure the lines of the dosing system at the installation site where public traffic can be expected.



On-site encoder voltage on the fault signal contact of the dosing pump.

- ▶ Have work on the electrical system carried out by qualified electricians only.
- ▶ Switch-off the on-site encoder voltage before working on the dosing pump.
- ▶ Comply with the 5 safety rules of electrical engineering.

### 2.2.1 About mineral solutions



#### WARNING

Skin and eye contact with mineral solution

- Chemical eye burns, irritation of the skin and the respiratory tract
- ▶ Use personal protective equipment (safety goggles, protective gloves, protective clothing) when handling an open canister and when working on the dosing system.
- ▶ Use approved exaliQ mineral solutions only.
- ▶ Do not mix exaliQ mineral solutions.
- ▶ Do not transfer exaliQ mineral solutions into other canisters.
- ▶ Do not use exaliQ mineral solutions whose shelf life has expired.

## 2.2.2 Safety-related components



Safety components must be replaced by genuine spare parts only.

- Dosing pump, pump head
- Dosing hose, dosing valve
- All pressurised parts and parts that come into contact with the media

## 2.2.3 Signals and warning devices



The affixed information and pictograms must be clearly legible. They must not be removed, soiled or painted over.

- ▶ Obey all warnings and safety instructions.
- ▶ Immediately replace illegible or damaged symbols and pictograms.

## 2.3 Conduct in emergencies



**WARNING** Pressurised media lines

- After the mains plug is unplugged, media lines on the pressure side are still under pressure.
- Dosing media splashing out.
- ▶ Use personal protective equipment.
- ▶ Relieve the pressure on the pressure side of the dosing pump before working on the pump head, its equipment parts or the dosing hose.

### 2.3.1 If the dosing agent escapes

1. Disconnect the product from the voltage supply.
2. Locate the leak.
3. Eliminate the cause of the dosing media escaping.
4. Contact the technical service.

### 2.3.2 In case of incorrect dosing/overdosing

1. Disconnect the product from the voltage supply
2. Contact the technical service.

## 3 Product description

### 3.1 Intended use

The mineral substances protect the water pipes and the connected water carrying system components (fittings, devices, operating equipment, household appliances, boilers, production plants, etc.) from malfunctions and damage due to scale deposits and/or corrosion.

#### GENODOS DME 6 – 100

- The dosing system GENODOS DME is designed for volume-based dosing of exaliQ mineral solutions into the drinking and industrial water pipes of commercial and industrial buildings.
- The dosing system GENODOS DME is suitable for long-lasting as well as continuous flows.

#### GENODOS DME Delta-p

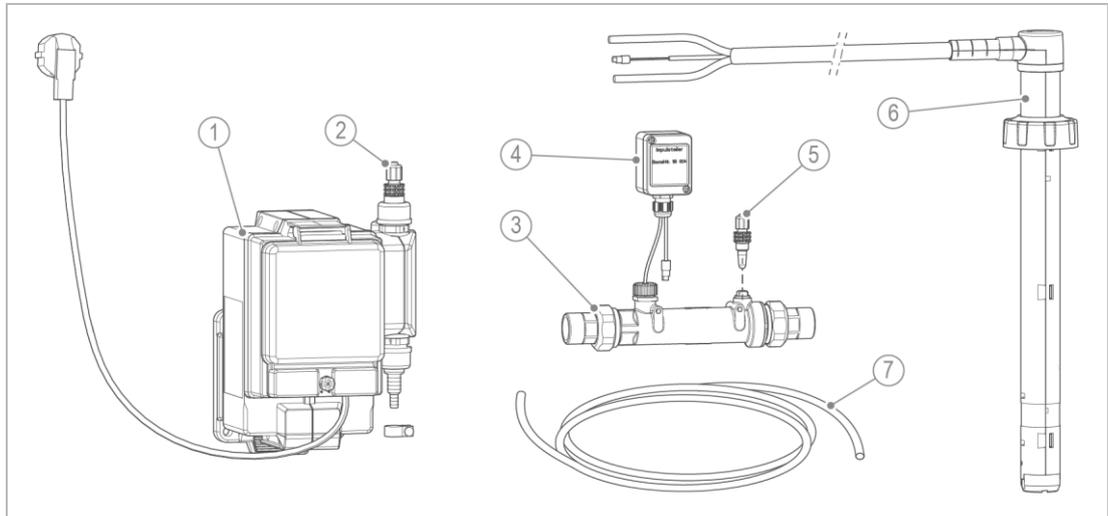
- The dosing system GENODOS DME Delta-p is designed for volume-based dosing of exaliQ mineral solutions into the drinking and industrial water pipes of commercial and industrial buildings.
- The dosing system GENODOS DME Delta-p is adapted to the water softener Delta-p.
- The dosing system GENODOS DME Delta-p is suitable for long-lasting as well as continuous flows.

#### 3.1.2 Foreseeable misuse

- Dosing chemicals other than exaliQ mineral solutions is **not** approved by Grünbeck Wasseraufbereitung GmbH and results in the loss of warranty claims.
- Using the mineral solution **exaliQ neutra** in combination with the dosing system GENODOS DME Delta-p is **not** permitted.

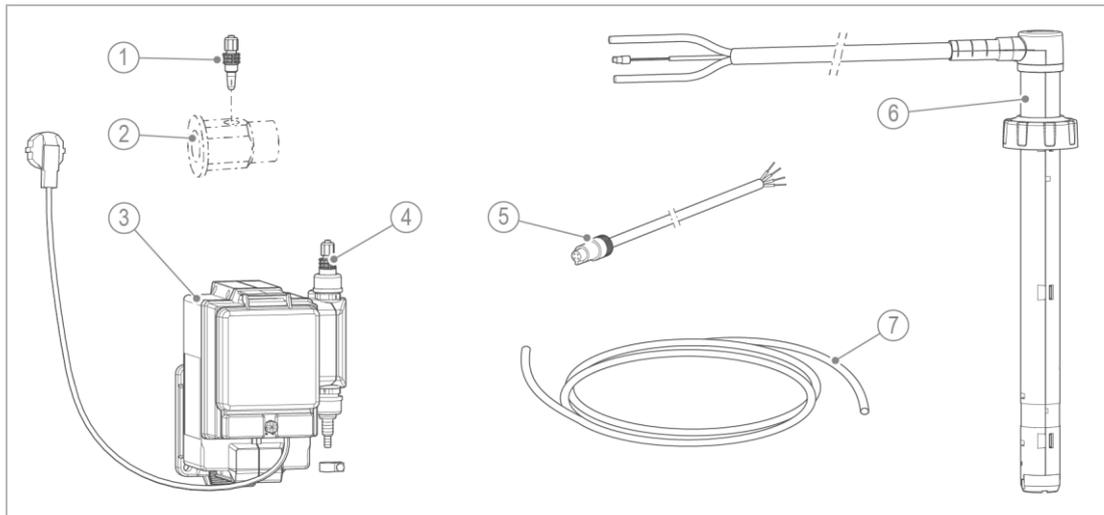
## 3.2 Product components

### 3.2.1 GENODOS DME 6 – 100



Designation	Function
1 Dosing pump	GENODOS GP ../40 with dosing volume pre-set to 100 ml/m <sup>3</sup> , under seal
2 Hose connection kit	in sizes: Ø 2/4 for DME 6/10/20/30 or Ø 4/6 for DME 80/100
3 Contact water meter	with pulse sensor, dosing point with non-return valve and water meter screw connection
4 Pulse divider	With Hall pulse cable and coupling socket, 4-pole, for external connector plug (red) on the dosing pump
5 Dosing valve	for injection point on the contact water meter
6 Suction lance	with integrated empty signal, pre-alarm, suction and return line for 15 L canisters of exaliQ mineral solution
7 Dosing hose	in sizes: Ø 2/4 for DME 6/10/20/30 or Ø 4/6 for DME 80/100

### 3.2.2 GENODOS DME Delta-p



Designation	Function
1 Dosing valve	for injection point on the insert
2 Insert (available separately as an accessory, refer to chapter 3.4)	with injection point G $\frac{1}{4}$ " for dosing valve, for the soft water outlet of Delta-p (in suitable size)
3 Dosing pump	GENODOS GP-2/40 with dosing volume pre-set to 100 ml/m $^3$ , under seal
4 Hose connection kit	for dosing hose of size $\varnothing$ 2/4
5 Pulse cable	Hall pulse cable and coupling socket, 4-pole, for external connector plug (red)
6 Suction lance	with integrated empty signal, pre-alarm, suction and return line for 15 L canisters of exaliQ mineral solution
7 Dosing hose	in size $\varnothing$ 2/4

## 3.3 Functional description

### GENODOS DME 6 – 100

By means of a contact water meter with pulse generator, the dosing system GENODOS DME registers the water volume flowing through and sends the control pulses to the electronics of the dosing pump GENODOS GP according to the pulse interval of the contact water meter.

### GENODOS DME Delta-p

The dosing system DME Delta-p is tuned to the IONO-matic<sub>3</sub> control unit (starting from software version V3.05 and higher) of the Delta-p.

The electronics of the dosing pump GENODOS GP-2/40 receives the dosing signal from the control unit of the Delta-p water softener via the pulse connection cable.

The exaliQ mineral solution is injected into the drinking water pipe via the (optional) insert with injection point for the dosing valve which is mounted on the soft water outlet of the Delta-p water softener.

### General

The electronics controls the dosing pump and thereby determines the dosing volume of the mineral solution into the water pipe.

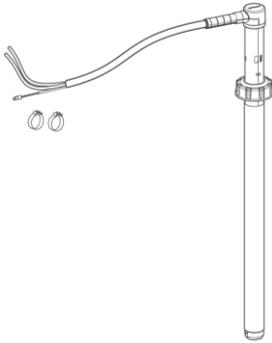
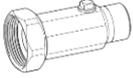
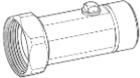
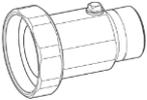
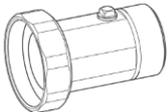
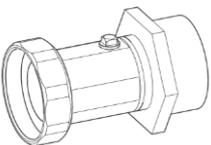
The mineral solution is withdrawn from the respective canister containing the mineral solution by means of a suction lance and added to the water.

An electronic level control switches the pump off when the canister containing the mineral solution is empty.

A yellow LED on the electronics of dosing pump GENODOS GP visually signals the need for a replacement of the canister.

### 3.4 Accessories

You can retrofit your product with accessories. Please contact your local Grünbeck representative or Grünbeck's headquarters in Hoechststadt/Germany for details.

Illustration	Product	Order no.
	<b>Conversion kit GENODOS DME 60 litre suction lance</b> For conversion to 60 L canisters	<b>163 765</b>
Optional <b>insert with injection point G¼"</b> for the soft water outlet of Delta-p		
	For Delta-p 1"	<b>185000010000</b>
	For Delta-p 1¼"	<b>185000020000</b>
	For Delta-p 1½"	<b>185000030000</b>
	For Delta-p 2"	<b>185000040000</b>
	zu Anschluss-Set Delta-p 1½" – 2" Delta-p 185 823 Delta-p-I 185 824	<b>185000050000</b>
	<b>Pressure maintaining valve</b> Spring-loaded diaphragm valve	<b>Refer to Technical Information (TI) on accessories</b>

### 3.5 Mineral solutions

Grünbeck Wasseraufbereitung GmbH confirms that the mineral substances contained in the colourless liquid concentrates correspond to the publication of the list of treatment substances and disinfection procedures in accordance with §11 of the German Drinking Water Ordinance – 19th amendment (status: December 2017).

Mineral solution	Effect	Material
<b>exaliQ control</b>	Rehabilitation	Galvanised pipes
For the rehabilitation of corroded zinc pipes (often recognisable by brown-coloured water). After the rehabilitation (approx. 6 months): Change to a different exaliQ dosing agent.		
<b>exaliQ safe</b>	Corrosion protection	Galvanised pipes and copper materials/brass
For corrosion protection of water in the hardness range soft to medium (up to 14 °dH) as well as downstream of water softeners. For water temperatures up to 60 °C. To reduce the introduction of heavy metals (e.g. lead).		
<b>exaliQ safe+</b>	Corrosion protection and hardness stabilisation	Galvanised pipes and copper materials/brass
For hardness stabilisation and corrosion protection of water in the hardness range up to 21 °dH and to reduce the introduction of heavy metals (e.g. lead). For water temperatures up to 60 °C. For water temperatures up to 60 °C. In case of a water hardness > 21 °dH, we recommend a water softener (e.g. softliQ:SD21) to treat the hardness and then to change to exaliQ safe.		
<b>exaliQ pure</b>	Hardness stabilisation	Galvanised pipes and copper materials/brass
For circulation water in solar systems or installation of the dosing technology in the cold water inlet to the decentralised water heater. For high temperatures up to 80 °C and/or hard water with a total hardness > 21 °dH (total alkalinity > 15 °dH ). <i>Note: Copper and brass materials are only suitable for warm water. Consultation with Grünbeck Wasseraufbereitung GmbH recommended prior to first application.</i>		
<b>exaliQ neutra</b>	Increase of pH value	Galvanised pipes and copper materials/brass
Corrosion protection for soft water with high carbon dioxide concentrations as well as downstream of water softeners. Corrosion protection due to the binding of free carbon dioxide and an increase of the pH value. <b>Note:</b> The mineral solution exaliQ neutra must <b>not</b> be used with dosing system GENODOS DME Delta-p. The stand-alone dosing system GENODOS DME 6 – 100 must be used.		



The shelf life of the mineral solutions is 2 years following the filling date (protected against cold and light).

- Once the canister has been opened, it is recommended to use up the contents within 6 months, but within 12 months at the latest.

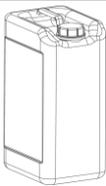


When changing from the mineral solution to another dosing agent, the dosing system must be flushed (refer to chapter 8.6).

The mineral solutions are hygienically packaged at the factory and sterilely sealed with a secured screw cap.

The ready-to-use concentrates are designed for a pump capacity of 100 ml/m<sup>3</sup> drinking water flow.

### 3.5.1 Canister designs

Illustration	Product	Design	Order no.
	15 L plastic canister, stackable	exaliQ control	<b>114 071</b>
	1 Canister is sufficient for drinking water treatment of approx. 150 m <sup>3</sup>	exaliQ safe	<b>114 072</b>
		exaliQ safe+	<b>114 073</b>
		exaliQ pure	<b>114 074</b>
		exaliQ neutra	<b>114 075</b>
	60 L plastic canister, stackable	exaliQ control	<b>114 081</b>
	1 Canister is sufficient for drinking water treatment of approx. 600 m <sup>3</sup>	exaliQ safe	<b>114 082</b>
		exaliQ safe+	<b>114 083</b>
		exaliQ pure	<b>114 084</b>
		exaliQ neutra	<b>114 085</b>
	Conversion kit GENODOS DME, 60 L suction lance required (refer to chapter 3.4).		

## 4 Transport and storage

### 4.1 Transport

- ▶ Transport the product in its original packaging only.

### 4.2 Storage

- ▶ Protect the product from the impacts below when storing it:
  - Dampness, moisture
  - Environmental impacts such as wind, rain, snow, etc.
  - Frost, direct sunlight, severe heat exposure
  - Chemicals, dyes, solvents and their vapours

### 4.3 Transport/storage of the canisters

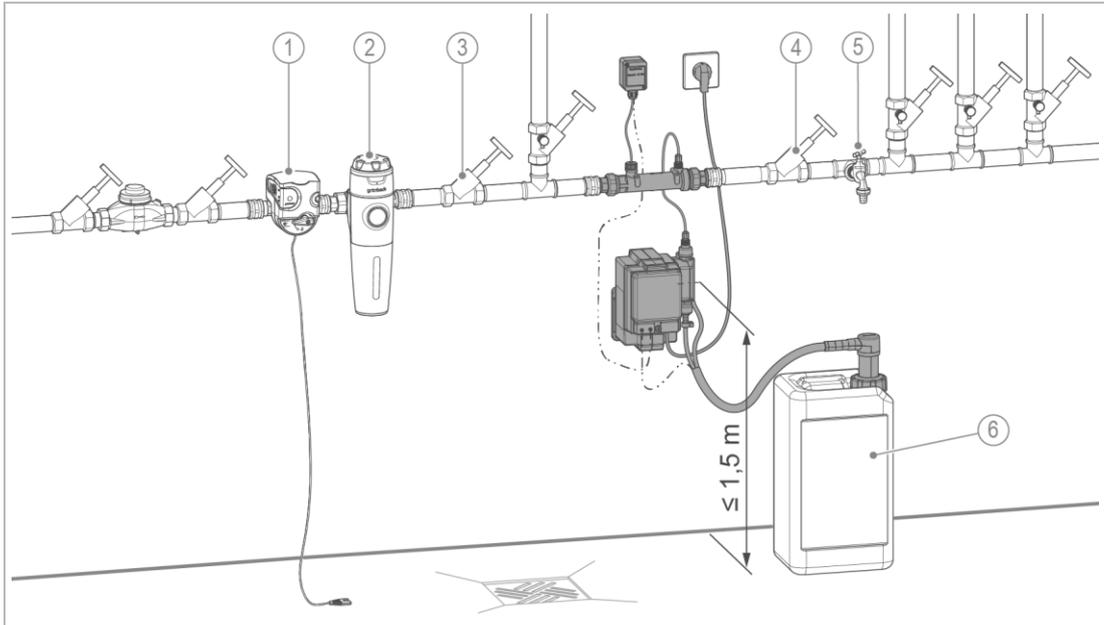
- ▶ Make sure that unauthorised persons, e.g. children, do not have direct access to mineral solutions.
- ▶ When storing the 15 L and 60 L canisters, do not stack more than 2 on top of each other.
- ▶ Secure the stacked canisters against falling over – place them against a solid wall or leave them secured on the pallet.

## 5 Installation



The installation of the system represents a major intervention into the drinking water system and must be carried out by a qualified specialist only.

### Installation example GENODOS DME 6 – 100



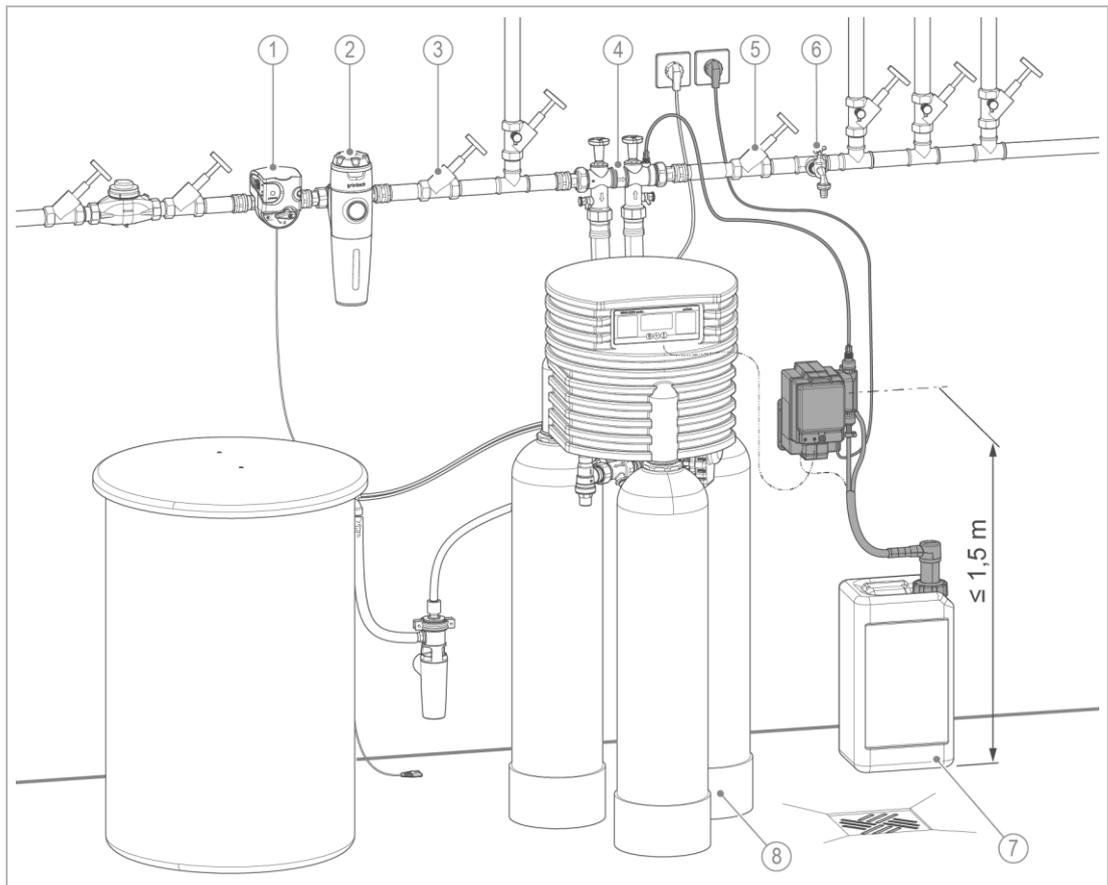
#### Designation

- 1 Safety device protectliQ
- 2 Drinking water filter pureliQ
- 3 Inlet shut-off valve

#### Designation

- 4 Outlet shut-off valve
- 5 Water withdrawal point
- 6 Canister with exaliQ mineral solution

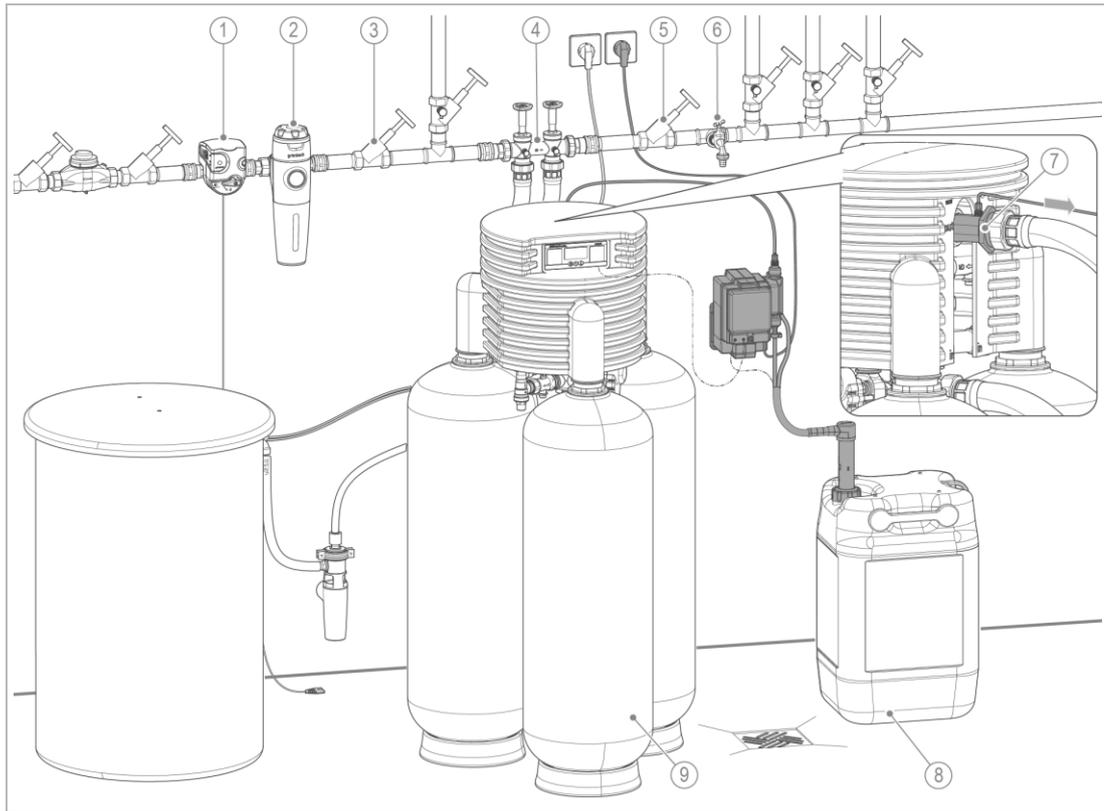
Installation example GENODOS DME Delta-p with connection kit 1"– 1¼"



Designation	
1	Safety device protectliQ
2	Drinking water filter pureliQ
3	Inlet shut-off valve
4	Connection block Delta-p with injection point

Designation	
5	Outlet shut-off valve
6	Water withdrawal point
7	Canister with exaliQ mineral solution
8	Delta-p water softener

Installation example I GENODOS DME Delta-p with connection kit 1½" – 2"



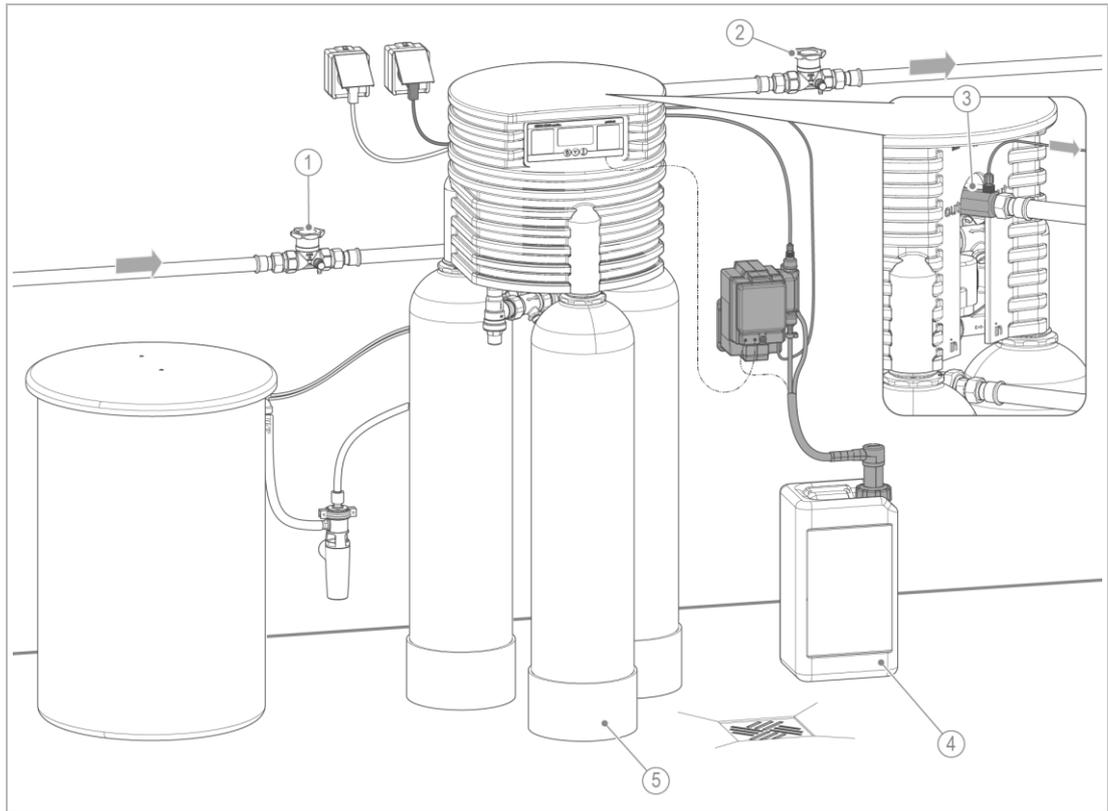
Designation

- 1 Safety device protectliQ
- 2 Drinking water filter pureliQ
- 3 Inlet shut-off valve
- 4 Connection block Delta-p without injection point
- 5 Outlet shut-off valve

Designation

- 6 Water withdrawal point
- 7 Insert with injection point G¼" for connection kit Delta-p 1½" – 2"
- 8 Canister with exaliQ mineral solution
- 9 Delta-p water softener

Installation example GENODOS DME Delta-p with fixed piping



Designation	
1	Inlet shut-off valve
2	Outlet shut-off valve
3	Insert with injection point G $\frac{1}{4}$ "

Designation	
4	Canister with exaliQ mineral solution
5	Delta-p water softener

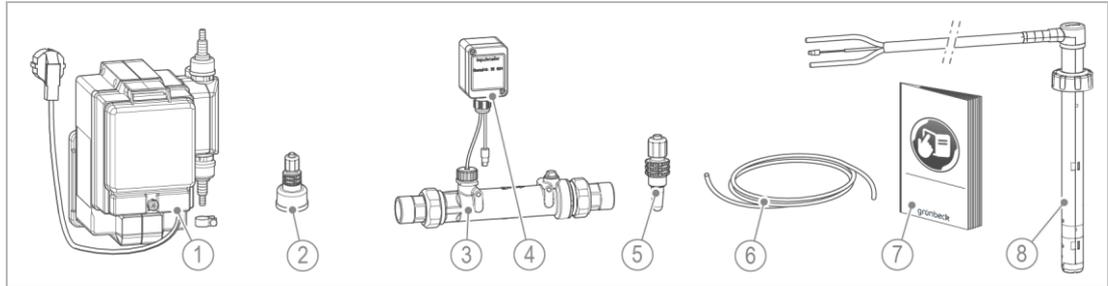
## 5.2 Requirements for the installation site

Obey the local installation directives, general guidelines and technical specifications.

- The installation site must be frost-proof and ensure the system's protection from direct sunlight, chemicals, dyes, solvents and their vapours, etc.
- The installation site must be adequately illuminated and ventilated.
- Disturbing influences and restrictions on site must be indicated by the client in advance and taken into account in the design of the system.
- Always install a drinking water filter and, if required, a pressure reducer (e.g. fine filter pureliQ:KD) upstream of the product.
- For electrical connection, a Schuko socket is required within a distance of approx. 1.2 m.
  - The socket outlet must be fitted in such a way that the device can be unplugged immediately and at any time in the event of malfunctions or maintenance work.
- A floor drain suitable for the system size must be available at the installation site or a protection device e.g. protectliQ or a protection device with water stop of the same quality must be installed.
- Downstream of the dosing point, a water withdrawal point must be available.
- The dosing systems GENODOS DME are DVGW-certified and can be installed without any additional safety devices (system separator, large pipe loop).
- Prior to using the dosing system GENODOS DME, you need to know the composition of the water.
- The dosing pump must not be mounted more than max. 1.5 m above the canister bottom (preferably as low as possible).

## 5.3 Checking the scope of supply

### GENODOS DME 6 – 100



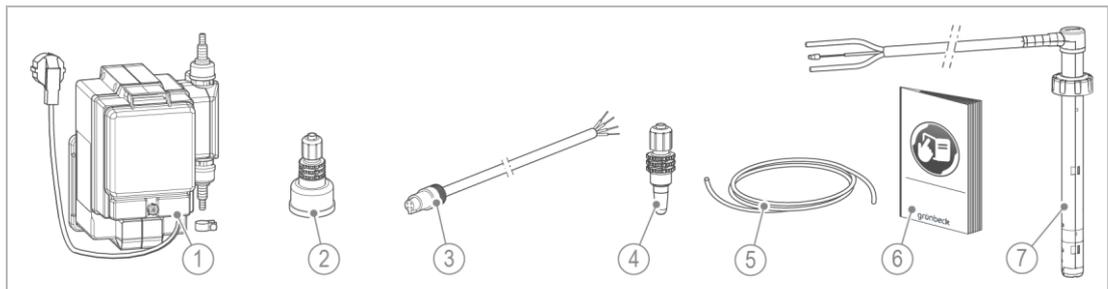
#### Designation

- 1 Dosing pump GENODOS GP with dosing volume pre-set to 100 ml/m<sup>3</sup>, under seal
- 2 Hose connection kit for dosing hose Ø 2/4 or Ø 4/6
- 3 Contact water meter
- 4 Pulse divider

#### Designation

- 5 Dosing valve for dosing hose Ø 2/4 or Ø 4/6
- 6 Dosing hose
- 7 Operation manual
- 8 15 L suction lance for exaliQ mineral solutions

### GENODOS DME Delta-p



#### Designation

- 1 Dosing pump GENODOS GP-2/40 with dosing volume pre-set to 100 ml/m<sup>3</sup>, under seal
- 2 Hose connection kit for dosing hose Ø 2/4
- 3 Pulse cable for external activation
- 4 Dosing valve for dosing hose Ø 2/4

#### Designation

- 5 Dosing hose
- 6 Operation manual
- 7 15 L suction lance for exaliQ mineral solutions

► Check the scope of supply for completeness and damage.

## 5.4 Water installation

Obey the operation manuals below:

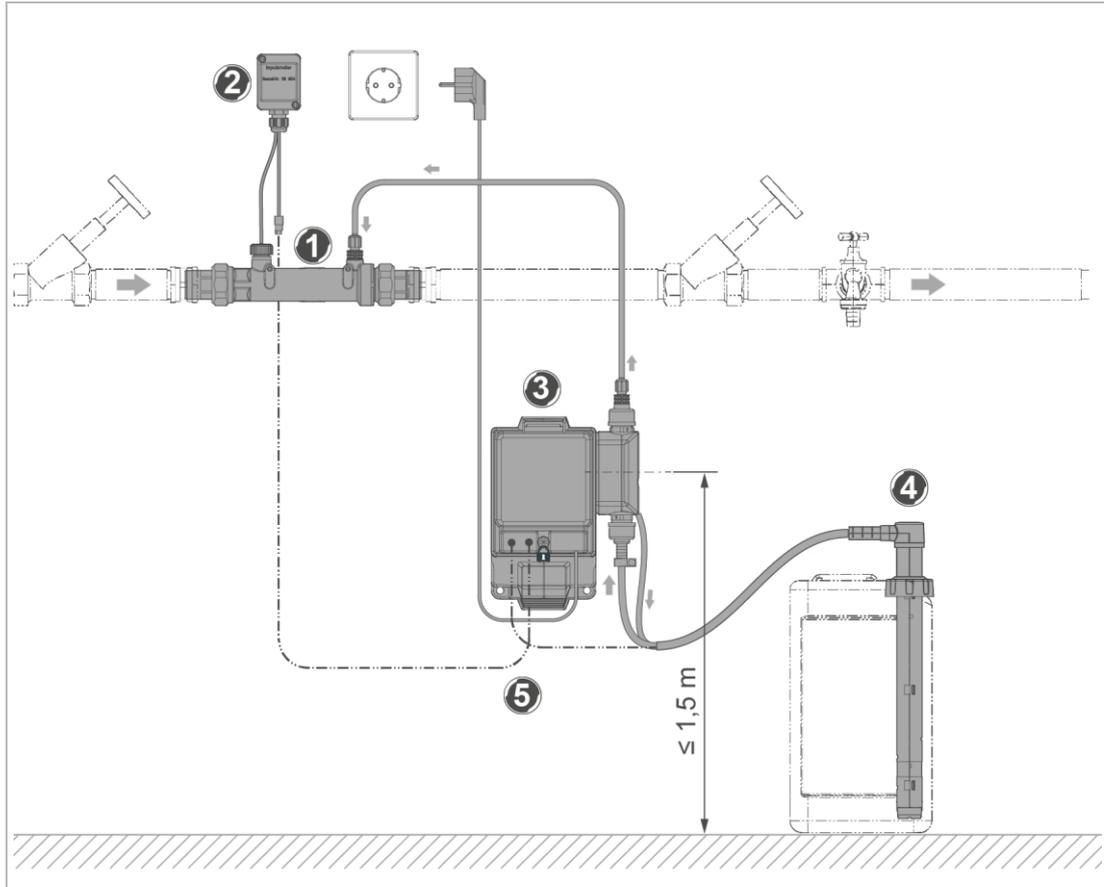
- Dosing pump GENODOS pump GP and Technical Information on accessories
- Contact water meter
- Pulse divider
- Optional pressure maintaining valve





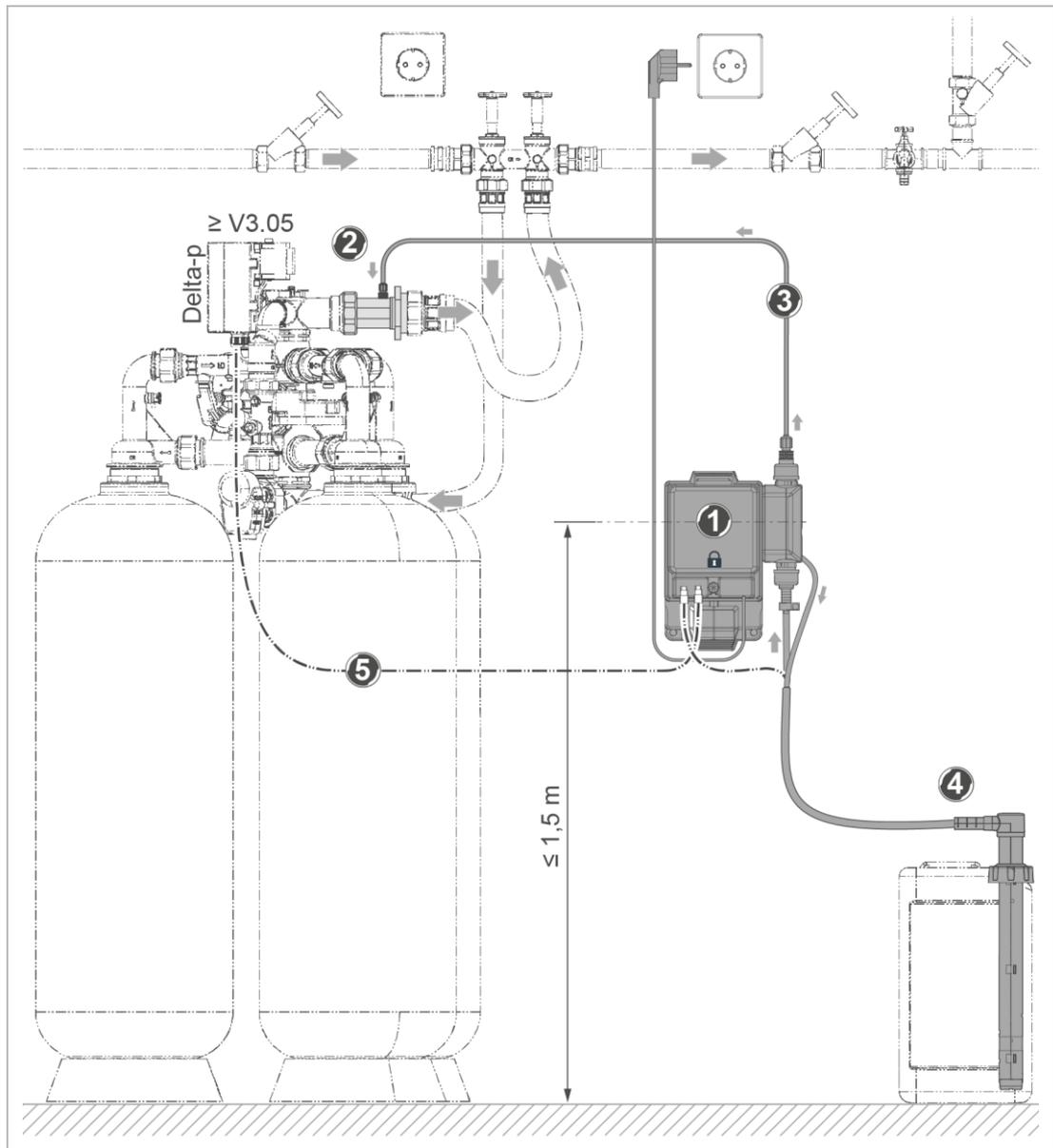
- ▶ Install all components of the dosing system as compact as possible (rolled up with cable ties).
- ▶ Lay all lines without bends and free of mechanical stress.
- ▶ Leave a reserve length when shortening the dosing hose.
- ▶ Lay the dosing hose protected from hot and sharp-edged surfaces.
- ▶ Lay the suction line constantly rising towards the dosing station.
- ▶ Do not leave a suction line lying on the floor

### GENODOS DME 6 – 100



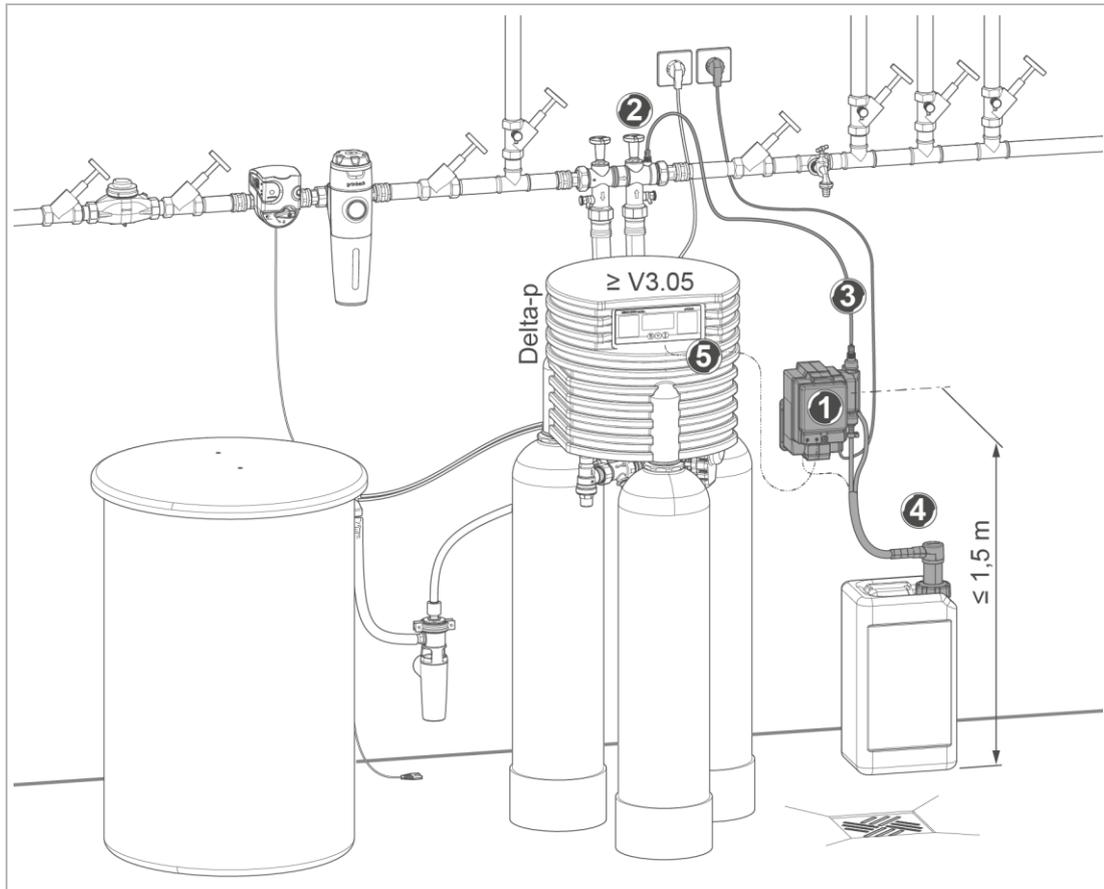
1. Install the contact water meter into the pipe in a horizontal position – respect the flow direction.
  2. Mount the pulse divider.
  3. Mount the dosing pump and connect the dosing hose to the hose connection kit and the dosing valve on the contact water meter.
  4. Connect the suction and return hose of the suction lance to the dosing pump.
  5. Establish the contacts of the suction lance for empty signal and of the pulse generator with the dosing pump.
- » The components of the dosing system are installed.

## GENODOS DME Delta-p



1. Mount the dosing pump.
2. Install the (optional) insert in the soft water outlet of the Delta-p – respect the flow direction (refer to mounting instructions, order no. 100104560000).
  - a Install the dosing valve in the insert in case of fixed piping or when using a connection kit 1½" – 2".

**GENODOS DME Delta-p (with connection kit 1" – 1¼")**



- b** Install the dosing valve in the injection point when using a connection kit 1" – 1¼".
- 3.** Connect the dosing hose to the hose connection kit for dosing hose Ø 2/4 and the dosing valve on the insert.
- 4.** Connect the suction and return hose of the suction lance to the dosing pump.
  - a** Establish the contacts of the suction lance for empty signal and of the pulse generator with the dosing pump.
- 5.** Connect the pulse cable to the control unit (IONO-matic<sub>3</sub> starting from V3.05) of the Delta-p (refer to mounting instructions, order no. 100103810000).

## 6 Start-up/commissioning



The initial start-up of the system must only be carried out by technical service personnel.

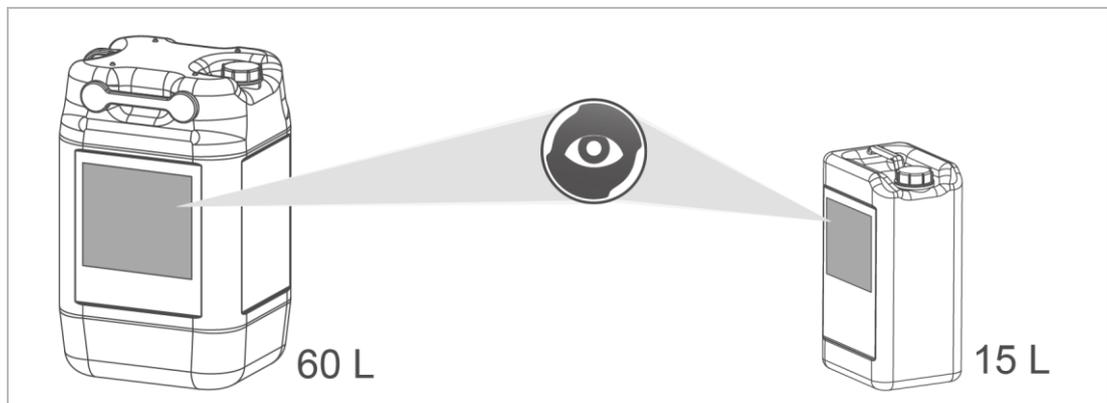
- ▶ Before initial start-up, check that all the components required for the safe operation of the dosing system have been installed.

### 6.1 Connecting the canister



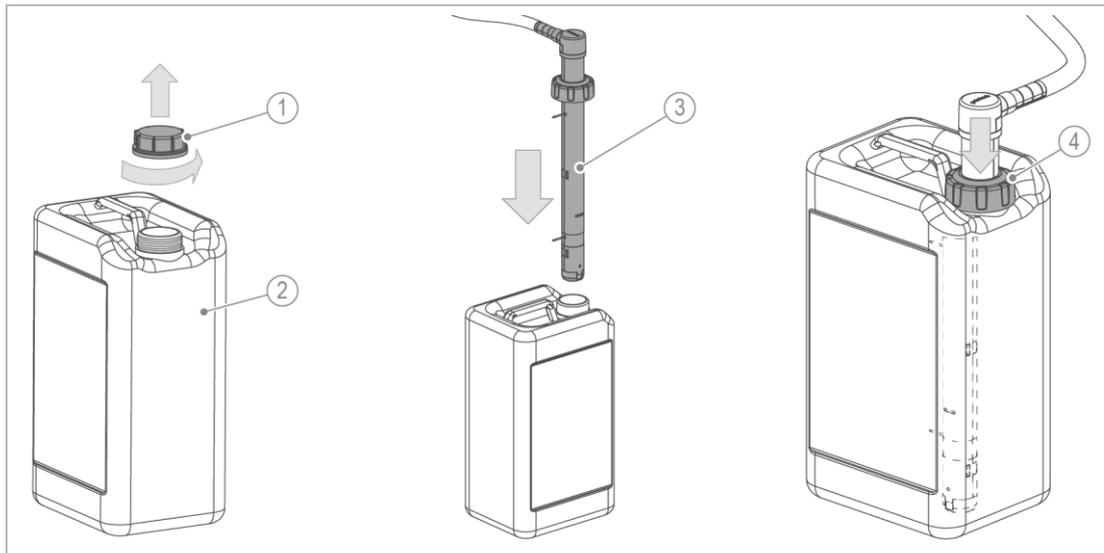
**WARNING** Skin and eye contact with mineral solutions

- Depending on the type of mineral solution, it can burn the eyes and irritate the skin and respiratory tract.
- ▶ For sodium hydroxide solution (exaliQ neutra), use safety goggles, sturdy clothing and protective gloves.
- ▶ Obey the safety data sheets and follow the instructions.
  
- ▶ Before opening a canister, pay attention to the following:
  - Type of mineral solution (designation, order no. and colour)
  - Filling date & shelf life



- ▶ Only use genuine mineral solutions by Grünbeck Wasseraufbereitung GmbH. Grünbeck Wasseraufbereitung GmbH cannot accept any liability for the use of third-party products.
- ▶ Be aware that the mineral solution **exaliQ neutra** must not be used in combination with GENODOS DME Delta-p.

### 6.1.1 Connecting the suction lance to the canister



Designation	Designation
1 Screw cap	3 Suction lance
2 Canister	4 Sliding cover

1. Unscrew the screw cap.
2. Keep the screw cap – to close the canister after use.
3. Vertically insert the suction lance into the canister from above.
4. Secure the suction lance with the sliding cover.
  - » The suction lance of the dosing system is connected to the full canister.
  - Make sure that the canister is stable and cannot tip over.

## 6.2 Checking the system



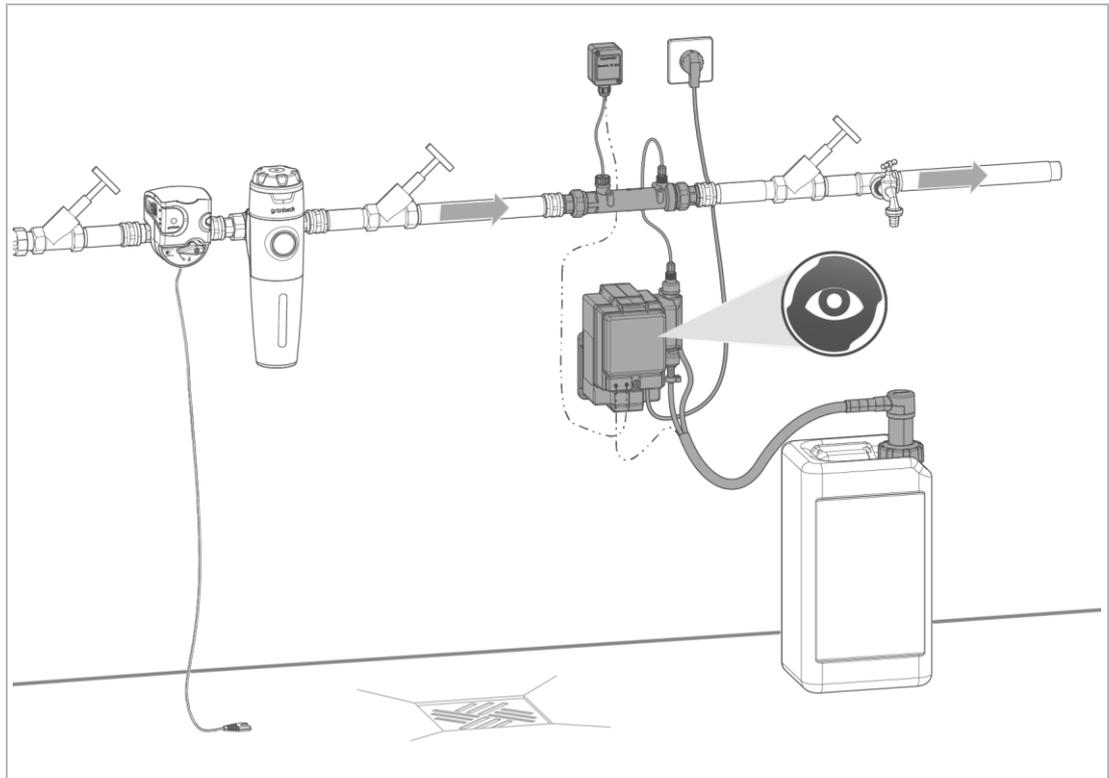
The setting of the factory-sealed dosing pump GENODOS GP must not be adjusted.



**WARNING** Life-threatening voltage of 230 V

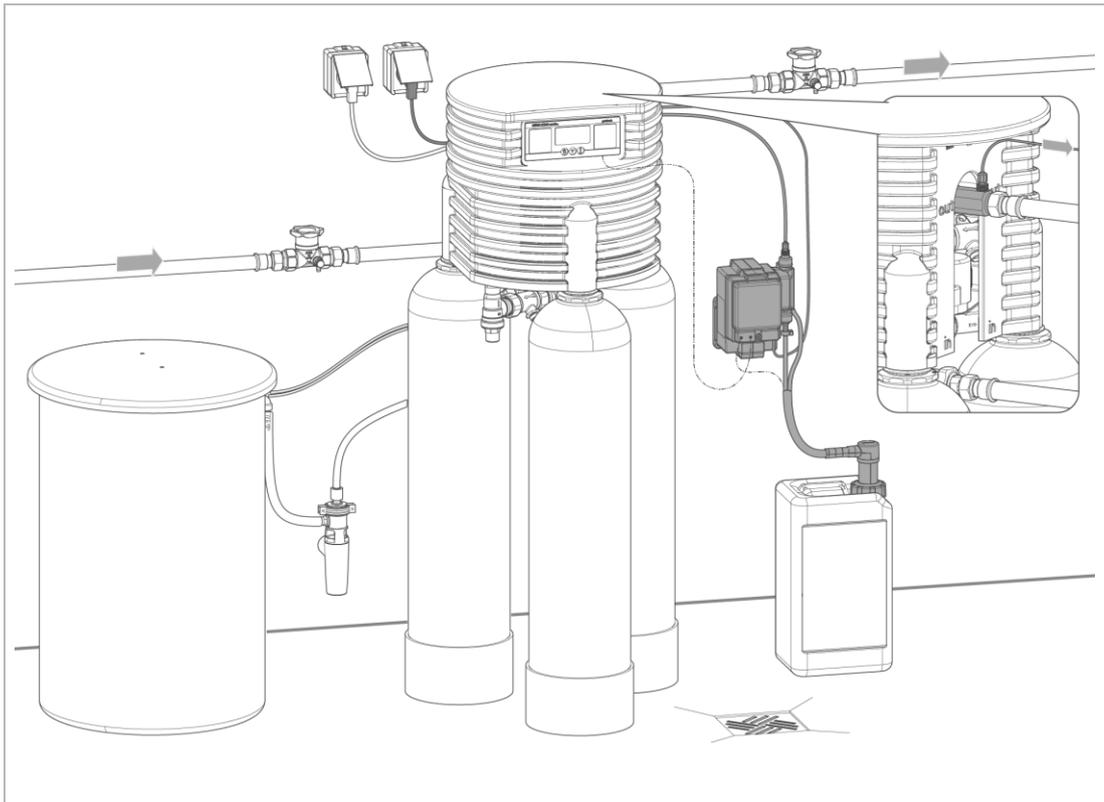
- Risk of severe burns, cardiovascular failure, death by fatal electric shock when directly touching live parts
- Switch off the on-site encoder voltage before working on the cable socket of the dosing pump.
- Check the electrical lines (power cable) for damage.
- Do not operate the pump if any damage is found.

## GENODOS DME 6 – 100



1. Check that all lines are securely connected.
  - a Retighten the clamps if necessary.
2. Check that all contact connections are connected.
3. Establish the power supply – plug in the mains plug.
4. Completely open a water withdrawal point downstream of the dosing point.
5. Check all connections and the entire dosing system for leaks.
6. Check the dosing pump for function.
7. Perform a test run.
8. Fill in the start-up/commissioning log (refer to chapter 13.1).

## GENODOS DME Delta-p



1. Check that all lines are securely connected.
  - a Retighten the clamps if necessary.
2. Check that all contact connections are connected.
3. Establish the power supply – plug in the mains plug.
4. Completely open a water withdrawal point downstream of the dosing point.
5. Check all connections and the entire dosing system for leaks.
6. Check the software version of the IONO-matic<sub>3</sub> control unit of the Delta-p water softener (refer to technical service manual of Delta-p).
  - » The software of the IONO-matic<sub>3</sub> control unit must be  $\geq$  update V3.05.
  - » The pulse divider on the Delta-p must be set correctly.
7. Check the Delta-p water softener for function in combination with the dosing system GENODOS DME Delta-p (refer to operation manual of Delta-p).
8. Perform a test run.
9. Fill in the start-up/commissioning log (refer to chapter 13.1).

## 6.3 Handing over the product to the owner/operator/operating company

- ▶ Explain to the owner/operator/operating company how the product works.
- ▶ Use the manual to brief the owner/operator/operating company and answer any questions.
- ▶ Inform the owner/operator/operating company about the need for inspections and maintenance.
- ▶ Hand over all documents to the owner/operator/operating company for keeping.

### 6.3.1 Disposal of packaging

- ▶ Dispose of packaging material as soon as it is no longer needed (refer to chapter 11).

### 6.3.2 Storage of accessories and consumables

- ▶ Keep the accessories delivered with the product.
- ▶ Make sure that required consumables are available and reordered in good time (refer to chapter 8.5).

## 7 Operation



Refer to the operation manual of GENODOS pump GP, order no. 118 940.



In case of dosing pumps under seal (vp) in the drinking water sector, the pre-set dosing rate of **100 ml/m<sup>3</sup>** (at a counter-pressure of 5 bar) must not be adjusted.

The dosing capacity of the dosing pump is designed for 50 Hz.

In case of counter-pressures of < 1 bar (10 mWC) and in case of fluctuating counter-pressures, a pressure maintaining valve must be installed downstream in order to maintain the exact dosing rate.

### 7.1 Checking and documenting operation as intended



You as owner and proprietor have the duty to inform consumers about the treatment substances used in accordance with § 16 paragraph 4 of the German Drinking Water Ordinance (TrinkwV).

According to § 11, paragraph 1, sentence 1, you are obliged to record the treatment substances used and their concentrations in the drinking water at least once a week.

The obligation to keep records for non-adjustable Grünbeck dosing systems with DVGW certificate together with ready-made exaliQ mineral solutions is fulfilled if proper operation is checked and documented weekly.

For the respective information sheets, go to the dosing technology section for the dosing system GENODOS DME and GENODOS DME Delta-p on [www.gruenbeck.de](http://www.gruenbeck.de).

- ▶ Carry out a visual check for proper operation of the dosing system once a week.
- ▶ Document the visual check performed.

### 7.2 Replacing the canister



#### WARNING

Leaking mineral solution

- Chemical burns on contact with mineral solution
- Slipping, falling
- ▶ Use personal protective equipment.
- ▶ Pay attention to leaks and puddles on the floor and immediately wipe up leaking/dripping mineral solution with disposable towel.
- ▶ Wipe the spots with water and a damp cloth, if necessary.

**NOTE** Do not refill empty canisters with mineral solution.

- Possible contamination of the mineral solution when transferring it from one canister to another
- Non-compliance with hygiene requirements when refilling empty canisters.
- Mixing of residual amounts of the mineral solution with fresh mineral solution.
- ▶ Replace an empty canister with a factory-filled canister.

**NOTE** Do not mix mineral solutions.

- Possible malfunction of the dosing system.
- ▶ Before using the mineral solution, check that it is the required mineral solution.

## 7.2.1 Requirement to replace the canister

The canister must be replaced:

- In case the shelf life of the mineral solution has expired.
- At the end of the recommended consumption period of 6 months after opening the canister, but after 12 months at the latest.
- As soon as the empty indicator (yellow LED) of the dosing pump lights up continuously.



An electronic level control switches the pump off when the canister is empty. Thus, the dosing pump is protected against running dry.

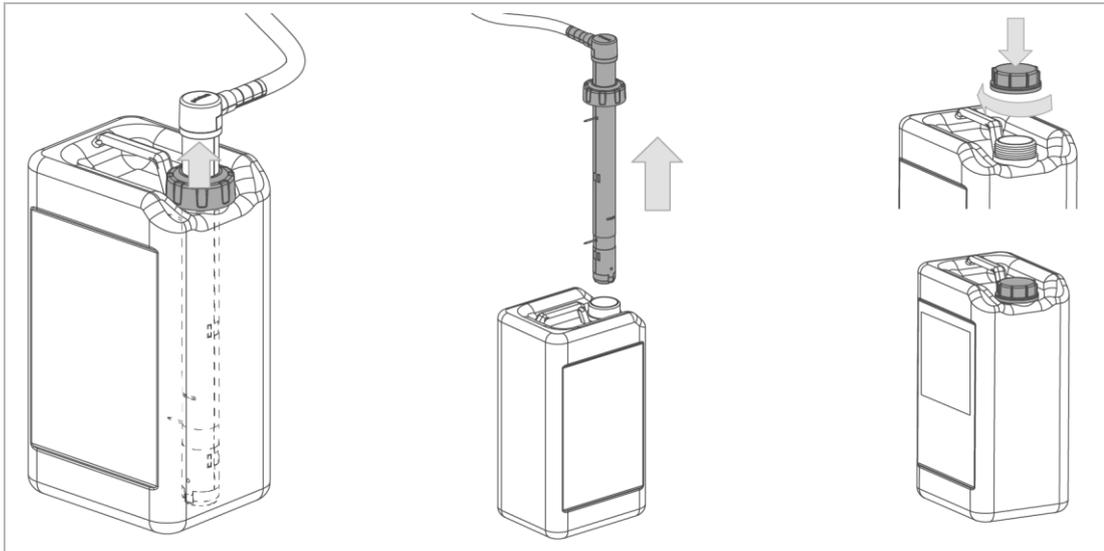
### 7.2.1.1 General procedure for replacing the canister

- ▶ Unplug the mains plug of the dosing system.
- ▶ Replace the empty canister with a full canister of the same mineral solution.

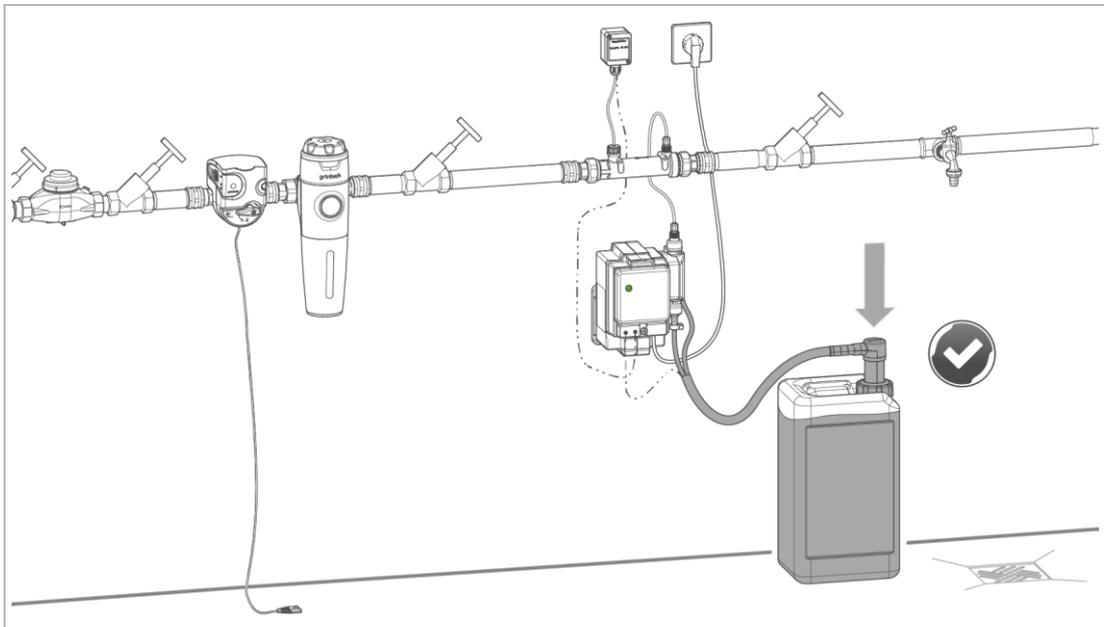
If no canister with mineral solution is available:

- ▶ Order a new exaliQ mineral solution from your dealer( refer to chapter 8.5).
- ▶ Plug the mains plug of the dosing system back in again after replacing the canister.

## 7.2.2 Replacing the canister



1. Release the sliding cover – pull upwards.
2. Pull the suction lance out upwards.
3. Pay attention to hygiene – do not touch the suction lance with your hand or place it on the floor.
4. Close the empty canister with the screw cap.



5. Vertically insert the suction lance into the full canister from above.
6. Secure the suction lance with the sliding cover.
  - » The dosing system is now ready for use.



An empty canister can be disposed of in an environmentally friendly manner.

## 8 Maintenance and repair

Maintenance and repair includes cleaning, inspection and maintenance of the product.



The responsibility for inspection and maintenance is subject to local and national requirements. The owner/operator/operating company is responsible for compliance with the prescribed maintenance and repair work.



By concluding a maintenance contract you make sure that all maintenance work will be carried out on time.

- ▶ Only use genuine spare and wearing parts from Grünbeck.

### 8.1 Cleaning



Have the cleaning work only carried out by persons who have been instructed on the risks and dangers that can arise from the product.



#### **WARNING** Cleaning live components

- Risk of electric shock
- Sparking possible due to short circuit
- Switch off the voltage supply – as well as any external voltage – before starting the cleaning work.
- ▶ Do not use any high-pressure equipment for cleaning and do not blast electrical/electronic devices with water.

#### **NOTE** Do not clean the system with cleaning agents containing alcohol/solvents.

- These substances damage the plastic components
- ▶ Use a mild/pH-neutral soap solution.
- ▶ Use personal protective equipment.
- ▶ Only clean the outside of the system.
- ▶ Do not use any strong or abrasive cleaning agents.
- ▶ Wipe the surfaces with a damp cloth.
- ▶ Dry the surfaces with a cloth.

### 8.1.1 Cleaning in case of leaked/clogged mineral solution



**WARNING**

Skin and eye contact with sodium hydroxide solution 5% – exaliQ neutra

- Chemical burns to the eyes and irritation of the skin and respiratory tract
- ▶ Use safety goggles, protective gloves and sturdy clothing.
- ▶ Obey the safety data sheets and strictly follow the instructions.
  
- ▶ Absorb leaked mineral solution with suitable means – use a binding agent, if necessary.
  
- ▶ Clean the areas until they are completely dry.

## 8.2 Intervals



By way of regular inspections and maintenance, malfunctions can be detected in time and system failures might be avoided.

- ▶ As owner/operator/operating company determine which components must be inspected and maintained at which intervals (load-dependent). This is subject to the actual conditions such as: water condition, degree of impurities, environmental impacts, consumption, etc.

The interval table below shows the minimum intervals for the activities to be carried out.

Task	Interval	Activities
Inspection	2 months	<ul style="list-style-type: none"> <li>• Visually check the dosing pump and dosing hoses for leaks</li> <li>• Visually check the dosing system for leaks and function</li> <li>• Check the mineral solution for content and shelf life</li> </ul>
Maintenance	6 months	<ul style="list-style-type: none"> <li>• Check the dosing pump for function</li> <li>• Check the empty signal</li> <li>• Check the entire dosing system for leaks</li> <li>• Assess consumption of the dosing solution</li> </ul>
	annually	<ul style="list-style-type: none"> <li>• Check the dosing pump for its condition and for leaks</li> <li>• Clean components that come into contact with chemicals (pump head, valves) and replace, if necessary</li> <li>• Check flow rates and dosing volumes</li> <li>• Check the function and condition of all system components (dosing point, suction lance, contact water meter, optional pressure maintaining valve)</li> <li>• Replace the dosing valve</li> </ul>
Repair	5 years	<ul style="list-style-type: none"> <li>• Recommendation: Replace wearing parts</li> </ul>

## 8.3 Inspection

You as owner/operator/operating company can do the regular inspections yourself. Initially, we recommend inspecting the system at shorter intervals and later on as required.

- ▶ Carry out an inspection at least every 2 months.
  1. Visually check the dosing pump and the dosing hoses for leaks.
  2. Check that the dosing system is in operating mode and does not report any faults.
  3. Check that the dosing system doses properly during water withdrawal.
    - » LED operation indicator is green and pump noise can be heard.
  4. Visually check the entire dosing system for leaks.
  5. Check the mineral solution for content and shelf life.

## 8.4 Maintenance

Regular work is required in order to ensure the proper functioning of the product in the long term. DIN EN 806-5 recommends regular maintenance to ensure trouble-free and hygienic operation of the product.

### 8.4.1 Semi-annual maintenance

Proceed as follows to carry out semi-annual maintenance:

1. Check the dosing pump for function.
2. Check the entire dosing system for leaks.
3. Check that the dosing pump doses properly during water withdrawal.
4. Check the empty signal – pull the suction lance from the canister.
5. Assess consumption of the mineral solution in relation to the water consumed.

### 8.4.2 Annual maintenance



Annual maintenance work requires expert knowledge. This kind of maintenance work must be carried out by technical service personnel only.

In addition to the semi-annual maintenance, the following work must be carried out as well:

6. Replace the dosing valve.
7. Check the flow volumes and dosing volumes and assess consumption (refer to chapter 8.4.3).

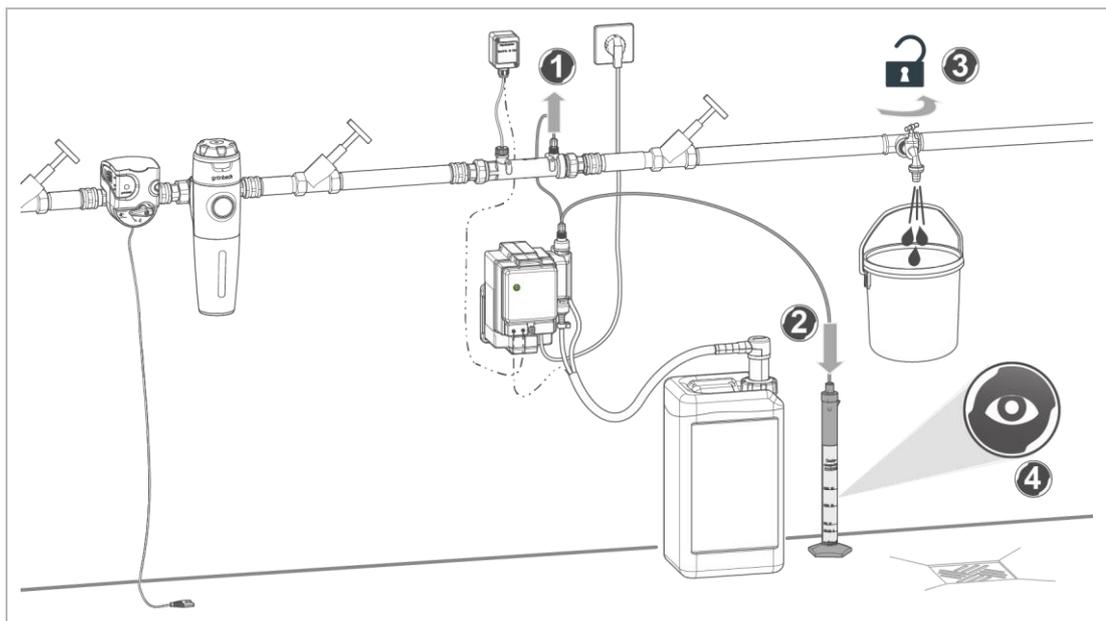
8. Clean the components that come into contact with chemicals (pump head, valves, suction and pressure membrane, seals).
  - a Replace worn components, if necessary.
9. Check the function and condition of all system components (dosing point, suction lance, contact water meter, optional pressure maintaining valve).
  - a Clean the injection point, if necessary.
  - b Replace the components, if necessary.
10. Carry out a wear test on safety-relevant components (refer to the operation manual of the GENODOS pump GP).

### 8.4.3 Check the dosing volume



For annual maintenance and/or in case of deviating consumption of the mineral solution, a dosing volume check must be carried out by gauging, e.g. a 15 L canister is sufficient for drinking water treatment of approx. 150 m<sup>3</sup>

► Proceed as follows to check the dosing volume:



1. Remove the dosing hose at the injection point.
2. Put the dosing hose into a measuring beaker (or use a measuring cylinder with matching 5 bar test valve, order no. 115 630).
3. Remove a certain water volume, e.g. 100 L.
4. Compare the ACTUAL value with the setpoint for the dosing volume:

Water volume	Dosing volume		
	min.	Setpoint	max.
100 L	9 ml	10 ml	11 ml
50 L	4.5 ml	5 ml	5.5 ml

(Dosing volume is pre-set to 100 ml/m<sup>3</sup> water treatment)

5. If the ACTUAL value is too low, carry out a wear test on components relevant for function (refer to the operation manual of the GENODOS pump GP).
6. If the ACTUAL value is too high, check all settings on the dosing system.

## 8.5 Consumables

Product	Order no.
<b>Mineral solution in 15 L canister (1x)</b>	
exaliQ control	114 071
exaliQ safe	114 072
exaliQ safe+	114 073
exaliQ pure	114 074
exaliQ neutra	114 075
<b>Mineral solution in 60 L canister (1x)</b>	
exaliQ control	114 081
exaliQ safe	114 082
exaliQ safe+	114 083
exaliQ pure	114 084
exaliQ neutra	114 085

## 8.6 Changing the mineral solution



Have a change of the dosing agent carried out by authorised and qualified personnel only.



If changing the mineral solution is necessary due to a change in water quality or after rehabilitation, the dosing system must be flushed with drinking water that complies with the German Drinking Water Ordinance (TrinkwV).



### **WARNING** Incorrect use of dosing agent

- Health hazard due to overdosage and/or wrong dosing agents in drinking water.
- ▶ In the drinking water sector, only and exclusively use dosing agents approved by Grünbeck.

**NOTE**

Change the mineral solution only after flushing the dosing system first.

- Mixing different mineral solutions can lead to the failure of the dosing system.
- Possible function failure/damage to the dosing system.
- ▶ Flush the dosing system according to the flushing instructions.

### 8.6.1 Flushing instructions

1. Put the suction lance into a container with drinking water that complies with the German Drinking water ordinance (TrinkwV).
  2. Flush until the water consumption of approx. 1 day has flown through.
    - » This corresponds to a consumption of flushing solution of approx. 0.05 – 0.1 L (500 – 1000 L water consumption).
    - » The dosing system is flushed.
- ▶ Insert a new canister with new mineral solution.

### 8.6.2 Replacing components



Replacing the pump head, dosing hose and dosing valve guarantees that no residues of the old mineral solution remain in the dosing system.

Replacing the components is necessary in the exceptional cases below:

- Crystallisation/chemical reactions
- Dosing pump defective/sucking air

## 8.7 Spare parts

For an overview of the spare parts, refer to our spare parts catalogue at [www.gruenbeck.com](http://www.gruenbeck.com). You can order the spare parts from your local Grünbeck representative.

## 8.8 Wearing parts

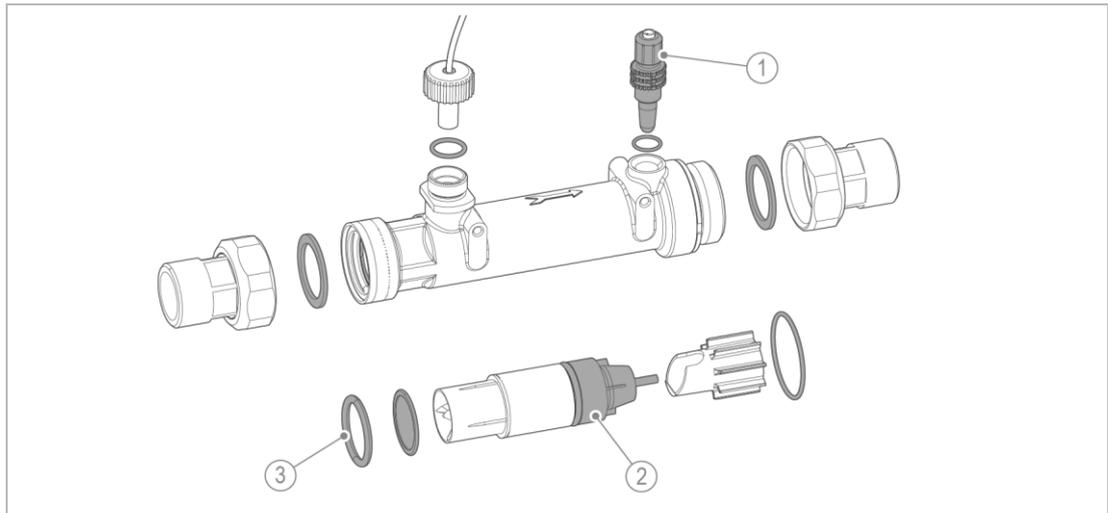


The replacement of wearing parts must be carried out by technical service personnel only.

Wearing parts are listed below:

- All valves and membranes on the dosing pump (refer to the operation manual of the GENODOS pump GP)
- Optional components such as the pressure maintaining valve

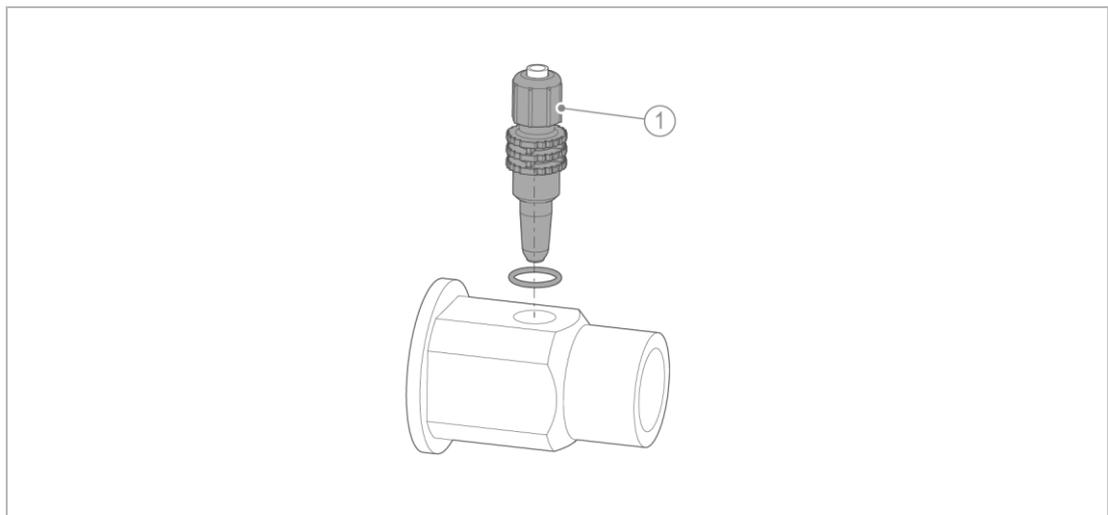
### GENODOS DME 6 – 100



Designation	
1	Dosing valve
2	Non-return valve

Designation	
3	All seals (e.g. O-rings)

### GENODOS DME Delta-p



Designation	
1	Dosing valve

## 9 Troubleshooting

### 9.1 Messages



In case of fault messages on the dosing pump – refer to chapter “Troubleshooting” in the operation manual of the GENODOS pump GP.

1. Eliminate the malfunction (refer to fault messages on the dosing pump).
2. Monitor the messages on the control unit.
3. Acknowledge the fault message by unplugging the mains plug and plugging it back in again.

### 9.2 Observations

Observation	Explanation	Remedy
Dosing capacity declines.	Leaks at the connection points	▶ Undo the hose at the relevant connection and cut off approx. 1 cm.
	Hose expanded too far	▶ Re-attach and secure the hose



If a malfunction cannot be eliminated, the technical service personnel can take further measures.

- ▶ Contact technical service (refer to inner cover sheet for contact data).

## 10 Decommissioning

If a longer shutdown of the system is planned, the system must be decommissioned.

### 10.1 Temporary standstill

1. Flush the dosing system with clear water – without any mineral solution.
2. Disconnect the dosing pump from mains.
3. Leave the suction lance in the container filled with drinking water

### 10.2 Restart/recommissioning

1. Connect the dosing pump to mains.
2. Put the dosing system into operation (refer to chapter 6).

### 10.3 Final shutdown

- ▶ Check whether shutting down the dosing systems has an effect on the functional integrity of your drinking water system.
- ▶ Have a qualified specialist dismantle the system components (refer to chapter 11.1).

# 11 Dismantling and disposal

## 11.1 Dismantling



The work described herein represents an intervention into your drinking water system.

- ▶ Have this work carried out by qualified specialists only.

1. Flush the system with drinking water.
2. Disconnect the dosing pump from mains.
  - a For **GENODOS DME Delta-p**  
Disconnect the dosing pump and the Delta-p water softener from mains.
3. Close the raw water shut-off valve.
4. Open a water withdrawal point – wait a few seconds.
  - » The pressure in the system and the pipe network is being relieved.
5. Close the water withdrawal point.
6. Remove the suction hose and the canister containing the mineral solution.
7. Remove the dosing hose and the dosing valve.
8. For **GENODOS DME 6 – 100**
  - a Insert the blind plug into the contact water meter or remove the contact water meter and close the gap in your drinking water system, e.g. by using a fitting piece.
  - b For **GENODOS DME Delta-p**  
Screw a blind plug into the dosing point on the insert.
9. Remove the dosing pump.

## 11.2 Disposal

- ▶ Obey the applicable national regulations.

### Packaging

#### NOTE

Danger to the environment due to incorrect disposal

- Packaging materials are valuable raw materials that can be reused in many cases.
- Incorrect disposal can cause hazards to the environment.
- ▶ Dispose of packaging materials in an environmentally sound manner.
- ▶ Obey the local disposal regulations.
- ▶ If necessary, commission a specialist company with the disposal.

### Mineral solution and canister

- ▶ Obey the safety data sheet of the mineral solution.
- ▶ Rinse the empty canister with a large amount of water.

### Product



If this symbol (crossed-out wheellie bin) is on the product, this product or its electrical and electronic components must not be disposed of as household waste.

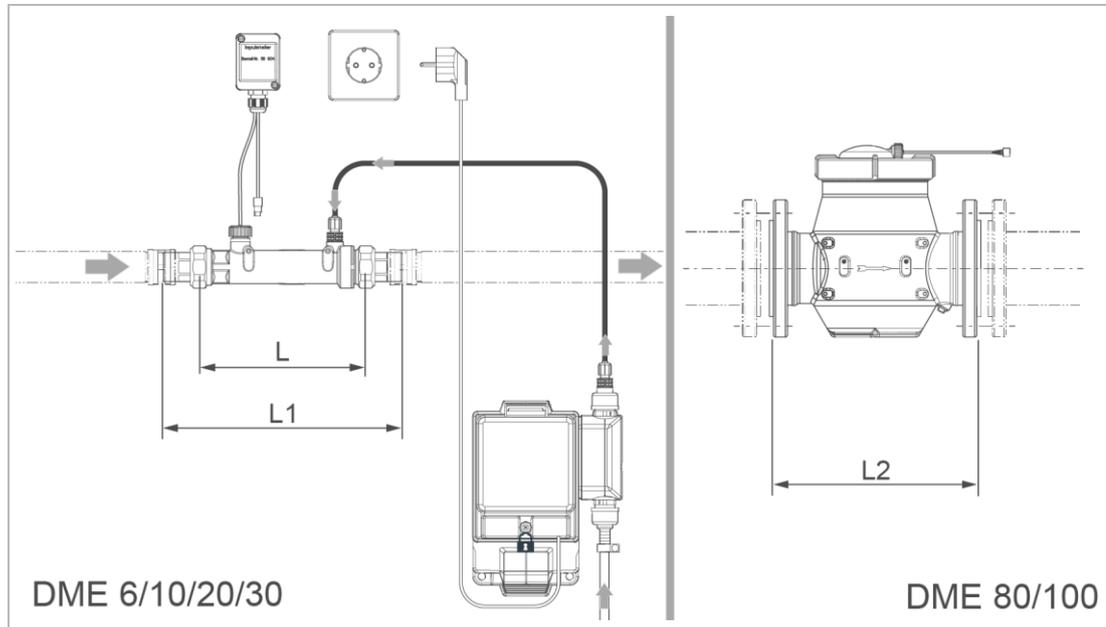
- ▶ Dispose of electrical and electronic products or components in an environmentally sound manner.
- ▶ If your product contains batteries or rechargeable batteries, dispose of them separately from your product.



For more information on take-back and disposal, go to [www.gruenbeck.de](http://www.gruenbeck.de).

## 12 Technical specifications

### 12.1 Dosing system GENODOS DME 6 – 100



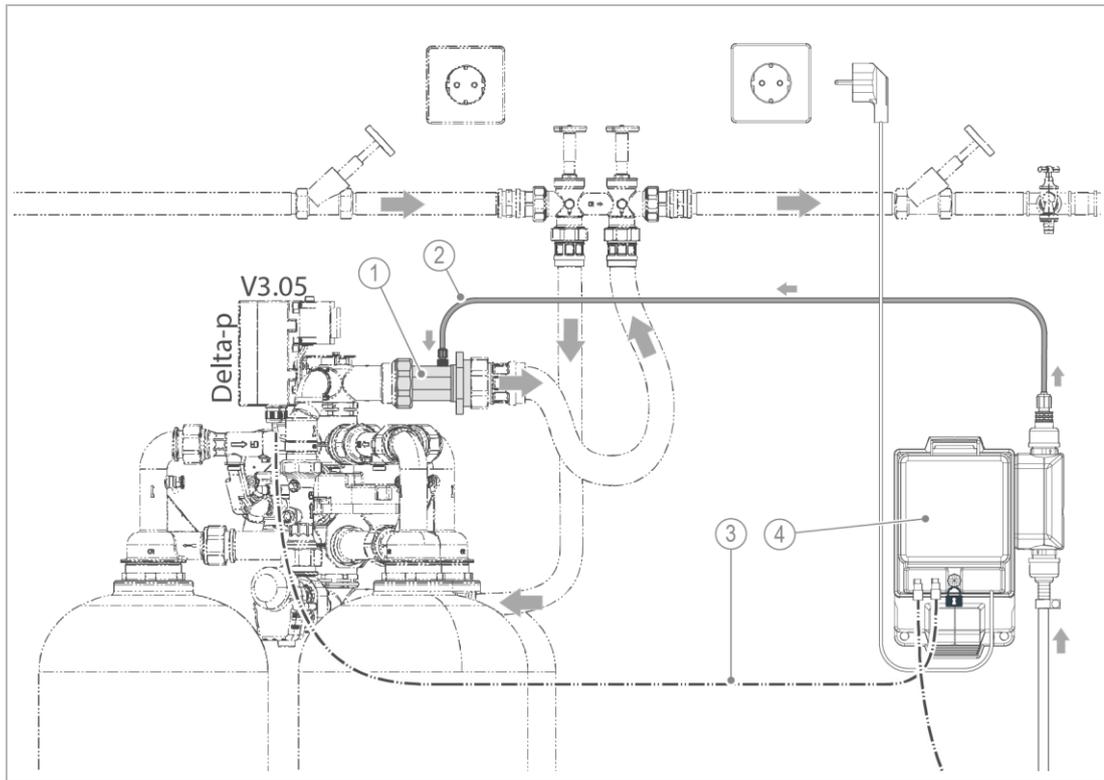
Dimensions and weights		DME 6	DME 10	DME 20	DME 30	DME 80	DME 100
Nominal connection diameter of water meter		DN 25 (1")	DN 32 (1¼")	DN 40 (1½")	DN 50 (2")	DN 80	DN 100
L Installation length w/o screw connection	mm	190	190	190	240	–	–
L1 Installation length with connection	mm	276	280	312	356	–	–
L2 Installation length with flange connection	mm	–	–	–	–	310	310

GENODOS pump		DME 6	DME 10	DME 20	DME 30	DME 80	DME 100
GP (set and under seal)		1/40	2/40	6/40	6/40	10/40	10/40
Position Pulse division factor	T	1	2	2	2	1	1
Suction head (at a water temperature of 20 °C)		≤ 1.5 m WC					
Power supply	V/Hz	230/50 – 60					
Protection/protection class		IP54Ⓢ					

Performance data		DME 6	DME 10	DME 20	DME 30	DME 80	DME 100
Operating range	m³/h	0.04 – 6	0.04 – 10	0.05 – 20	0.1 – 30	0.1 – 80	0.1 – 100
Dosing sequence (GP pump)	l	1	2.5	4.7	6.7	11.4	11.4
Pulse sequence (water meter)	l/pulse	0.33	0.5	0.93	1.33	3.8	3.8
Nominal pressure	MPa/bar	1/10					
Operating pressure	MPa/bar	≤ 1/10	≤ 1/10	≤ 0.8/8	≤ 0.8/8	≤ 0.6/6	≤ 0.6/6
Pressure loss at nominal capacity	bar	0.5	0.8	0.8	0.8	0.6	0.8

Consumption data		DME 6	DME 10	DME 20	DME 30	DME 80	DME 100
exaliQ mineral solution (at a counter-pressure of 5 bar)	ml/m <sup>3</sup>	100					
General data		DME 6	DME 10	DME 20	DME 30	DME 80	DME 100
Drinking water temperature	°C	≤ 25					
Water temperature	°C	5 – 30					
Ambient temperature		5 – 30					
Humidity (non-condensing)	%	≤ 90					
DVGW registration number		NW-9101CM0334					
ÜA registration number <i>The Office of the Vienna Provincial Government – City of Vienna</i>		R-15.2.3-21-17496					
<b>Order no.</b>		<b>163 435</b>	<b>163 445</b>	<b>163 455</b>	<b>163 465</b>	<b>163 475</b>	<b>163 485</b>

## 12.2 Dosing system GENODOS DME Delta-p



### Designation

- 1 Insert with injection point G $\frac{1}{4}$ " (accessories)
- 2 Dosing hose  $\varnothing$  2/4

### Designation

- 3 Pulse cable
- 4 Dosing pump GENODOS GP-2/40

### Dimensions and weights

### DME Delta-p

		DN 25 (1" m. thr.)	DN 32 (1¼" m. thr.)	DN 40 (1½" m. thr.)	DN 50 (2" m. thr.)
Nominal connection diameter of insert with injection point G $\frac{1}{4}$ " (accessories)					
Length of pulse cable for external activation	mm	3000			
Length of dosing hose	mm	3000			

### GENODOS pump

### DME Delta-p

GP (set and under seal)		2/40
Position Pulse division factor	T	1
Suction head (at a water temperature of 20 °C)		≤ 1.5 m WC
Power supply	V/Hz	230/50 – 60
Protection/protection class		IP54Ⓢ

### Performance data

### DME Delta-p

Operating range	m <sup>3</sup> /h	Refer to Delta-p
Pulse sequence (control unit Delta-p)	l/pulse	0.93
Dosing sequence	l	2.8
Nominal pressure	MPa/bar	1/10
Operating pressure	MPa/bar	≤ 0.6/6
Pressure loss at nominal capacity	bar	Refer to Delta-p

Consumption data		DME Delta-p
exaliQ mineral solution (at a counter-pressure of 5 bar) ( <b>exaliQ neutra</b> <i>must not be dosed</i> )	ml/m <sup>3</sup>	100
General data		DME Delta-p
Drinking water temperature	°C	≤ 25
Water temperature	°C	5 – 30
Ambient temperature	°C	5 – 30
Humidity (non-condensing)	%	≤ 90
DVGW registration number		Test pending
ÜA registration number <i>The Office of the Vienna Provincial Government – City of Vienna</i>		R-15.2.3-21-17496
<b>Order no.</b>		<b>163000010000</b>

# 13 Operation log



- ▶ Document the initial start-up/commissioning and all maintenance activities.
- ▶ Copy the maintenance report.

Dosing system GENODOS DME \_\_\_\_\_

Serial no.: \_\_\_\_\_

## 13.1 Start-up/commissioning log

Customer						
Name						
Address						
Installation/Accessories						
Drinking water filter (make/type)						
Floor drain present		<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Safety device (make/type)		<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Water softener installed upstream (make/type)		<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Dosing of mineral substance/ Size of canister		exaliQ		L		
Water pipe	<input type="checkbox"/> Galvanised steel	<input type="checkbox"/> Copper	<input type="checkbox"/> Plastic	<input type="checkbox"/> Stainless steel		
Operating values						
Water pressure (flow pressure)						bar
Water meter reading with/without garden pipe						m <sup>3</sup>
Room temperature						°C
Hardness unit	<input type="checkbox"/> °dH	<input type="checkbox"/> °f	<input type="checkbox"/> mol/m <sup>3</sup>	<input type="checkbox"/> °e	<input type="checkbox"/> °ppm	
Raw water hardness (measured)						
Remarks						
Start-up/commissioning						
Company						
Service technician						
Work time certificate (no.)						
Date/signature						

# Maintenance no.: \_\_\_\_\_



Enter the measured values and operating data.  
Confirm the checks with **OK** or record any repairs carried out.

Operating values		
Dosing volume checked (refer to checklist for replacement of canister)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
ACTUAL dosing volume, NEW dosing volume	ml	ml
Mineral solution Replacement canister available	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mineral solution used	exaliQ:	
Content and shelf life of mineral solution	approx. L	Date until:
Water pressure, flow pressure	bar	bar
Water meter reading with/without garden pipe		m <sup>3</sup>

Maintenance work	OK (YES)	NO
<b>Visual check</b>		
Entire dosing system checked on the outside for damage, corrosion and leaks	<input type="checkbox"/>	
Function-preserving cleaning carried out	<input type="checkbox"/>	
Hygienic condition respected	<input type="checkbox"/>	
<b>Functional check</b>		
Function of GENODOS pump GP checked by withdrawing water	<input type="checkbox"/>	
Suction, pressure and draining valve cleaned	<input type="checkbox"/>	
Suction, pressure and draining valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing and venting membrane replaced	<input type="checkbox"/>	<input type="checkbox"/>
Valve pin in pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Mains cable and mains plug checked for damage and a tight fit	<input type="checkbox"/>	
Hose connections checked for leaks	<input type="checkbox"/>	
Water meter checked for leaks	<input type="checkbox"/>	
Water meter and pulse divider checked for pulse output	<input type="checkbox"/>	
Dosing valve checked for leaks	<input type="checkbox"/>	
Dosing valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing hose checked for deposits and cleaned	<input type="checkbox"/>	
Dosing hose replaced	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance and hoses checked for deposits and cleaned	<input type="checkbox"/>	
Canister replaced if empty	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance replaced	<input type="checkbox"/>	<input type="checkbox"/>
Empty signal and switch-off of dosing pump in the event of an empty signal checked	<input type="checkbox"/>	
Pulse output of water meter/pulse divider checked	<input type="checkbox"/>	<input type="checkbox"/>

### Remarks

### Carried out by

Company		
Service technician	Date	Signature

# Maintenance no.: \_\_\_\_\_



Enter the measured values and operating data.

Confirm the checks with **OK** or record any repairs carried out.

Operating values		
Dosing volume checked (refer to checklist for replacement of canister)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
ACTUAL dosing volume, NEW dosing volume	ml	ml
Mineral solution Replacement canister available	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mineral solution used	exaliQ:	
Content and shelf life of mineral solution	approx. L	Date until:
Water pressure, flow pressure	bar	bar
Water meter reading with/without garden pipe		m <sup>3</sup>

Maintenance work	OK (YES)	NO
<b>Visual check</b>		
Entire dosing system checked on the outside for damage, corrosion and leaks	<input type="checkbox"/>	
Function-preserving cleaning carried out	<input type="checkbox"/>	
Hygienic condition respected	<input type="checkbox"/>	
<b>Functional check</b>		
Function of GENODOS pump GP checked by withdrawing water	<input type="checkbox"/>	
Suction, pressure and draining valve cleaned	<input type="checkbox"/>	
Suction, pressure and draining valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing and venting membrane replaced	<input type="checkbox"/>	<input type="checkbox"/>
Valve pin in pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Mains cable and mains plug checked for damage and a tight fit	<input type="checkbox"/>	
Hose connections checked for leaks	<input type="checkbox"/>	
Water meter checked for leaks	<input type="checkbox"/>	
Water meter and pulse divider checked for pulse output	<input type="checkbox"/>	
Dosing valve checked for leaks	<input type="checkbox"/>	
Dosing valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing hose checked for deposits and cleaned	<input type="checkbox"/>	
Dosing hose replaced	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance and hoses checked for deposits and cleaned	<input type="checkbox"/>	
Canister replaced if empty	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance replaced	<input type="checkbox"/>	<input type="checkbox"/>
Empty signal and switch-off of dosing pump in the event of an empty signal checked	<input type="checkbox"/>	
Pulse output of water meter/pulse divider checked	<input type="checkbox"/>	<input type="checkbox"/>

### Remarks

### Carried out by

Company		
Service technician	Date	Signature

# Maintenance no.: \_\_\_\_\_



Enter the measured values and operating data.  
Confirm the checks with **OK** or record any repairs carried out.

Operating values		
Dosing volume checked (refer to checklist for replacement of canister)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
ACTUAL dosing volume, NEW dosing volume	ml	ml
Mineral solution Replacement canister available	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mineral solution used	exaliQ:	
Content and shelf life of mineral solution	approx. L	Date until:
Water pressure, flow pressure	bar	bar
Water meter reading with/without garden pipe		m <sup>3</sup>

Maintenance work	OK (YES)	NO
<b>Visual check</b>		
Entire dosing system checked on the outside for damage, corrosion and leaks	<input type="checkbox"/>	
Function-preserving cleaning carried out	<input type="checkbox"/>	
Hygienic condition respected	<input type="checkbox"/>	
<b>Functional check</b>		
Function of GENODOS pump GP checked by withdrawing water	<input type="checkbox"/>	
Suction, pressure and draining valve cleaned	<input type="checkbox"/>	
Suction, pressure and draining valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing and venting membrane replaced	<input type="checkbox"/>	<input type="checkbox"/>
Valve pin in pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Mains cable and mains plug checked for damage and a tight fit	<input type="checkbox"/>	
Hose connections checked for leaks	<input type="checkbox"/>	
Water meter checked for leaks	<input type="checkbox"/>	
Water meter and pulse divider checked for pulse output	<input type="checkbox"/>	
Dosing valve checked for leaks	<input type="checkbox"/>	
Dosing valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing hose checked for deposits and cleaned	<input type="checkbox"/>	
Dosing hose replaced	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance and hoses checked for deposits and cleaned	<input type="checkbox"/>	
Canister replaced if empty	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance replaced	<input type="checkbox"/>	<input type="checkbox"/>
Empty signal and switch-off of dosing pump in the event of an empty signal checked	<input type="checkbox"/>	
Pulse output of water meter/pulse divider checked	<input type="checkbox"/>	<input type="checkbox"/>

### Remarks

Carried out by		
Company		
Service technician	Date	Signature

# Maintenance no.: \_\_\_\_\_



Enter the measured values and operating data.

Confirm the checks with **OK** or record any repairs carried out.

Operating values		
Dosing volume checked (refer to checklist for replacement of canister)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
ACTUAL dosing volume, NEW dosing volume	ml	ml
Mineral solution Replacement canister available	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Mineral solution used	exaliQ:	
Content and shelf life of mineral solution	approx. L	Date until:
Water pressure, flow pressure	bar	bar
Water meter reading with/without garden pipe		m <sup>3</sup>

Maintenance work	OK (YES)	NO
<b>Visual check</b>		
Entire dosing system checked on the outside for damage, corrosion and leaks	<input type="checkbox"/>	
Function-preserving cleaning carried out	<input type="checkbox"/>	
Hygienic condition respected	<input type="checkbox"/>	
<b>Functional check</b>		
Function of GENODOS pump GP checked by withdrawing water	<input type="checkbox"/>	
Suction, pressure and draining valve cleaned	<input type="checkbox"/>	
Suction, pressure and draining valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing and venting membrane replaced	<input type="checkbox"/>	<input type="checkbox"/>
Valve pin in pump head replaced	<input type="checkbox"/>	<input type="checkbox"/>
Mains cable and mains plug checked for damage and a tight fit	<input type="checkbox"/>	
Hose connections checked for leaks	<input type="checkbox"/>	
Water meter checked for leaks	<input type="checkbox"/>	
Water meter and pulse divider checked for pulse output	<input type="checkbox"/>	
Dosing valve checked for leaks	<input type="checkbox"/>	
Dosing valve replaced	<input type="checkbox"/>	<input type="checkbox"/>
Dosing hose checked for deposits and cleaned	<input type="checkbox"/>	
Dosing hose replaced	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance and hoses checked for deposits and cleaned	<input type="checkbox"/>	
Canister replaced if empty	<input type="checkbox"/>	<input type="checkbox"/>
Suction lance replaced	<input type="checkbox"/>	<input type="checkbox"/>
Empty signal and switch-off of dosing pump in the event of an empty signal checked	<input type="checkbox"/>	
Pulse output of water meter/pulse divider checked	<input type="checkbox"/>	<input type="checkbox"/>

### Remarks

Carried out by		
Company		
Service technician	Date	Signature





# EU Declaration of Conformity

In accordance with the EU Low-Voltage Directive 2014/35/EU, Appendix IV



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

This certificate becomes void if the system is modified in any way not approved by us.

## Dosing system GENODOS

**DME 6, DME 10, DME 20, DME 30, DME 80, DME 100, DME Delta-p**

**Serial no.: Refer to type plate**

The aforementioned system also complies with the following directives and provisions:

- EMC (2014/30/EU)
- Directive on the Restriction of Hazardous Substances RoHS (2011/65/EU)

The following harmonised standards have been applied:

- EN 60335-2-51:2003
- EN 61000-6-1:2007
- EN 61000-6-2:2005
- EN 61000-6-3:2007+A1:2011
- EN 61000-6-4:2007+A1:2011

Responsible for documentation:

Mirjam Müller

Manufacturer:

Grünbeck Wasseraufbereitung GmbH  
Josef-Grünbeck-Str. 1  
89420 Hoechstädt/Germany

Hoechstädt, 10.08.2021

ppa. Dietmar Ladenburger

Technical Director

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