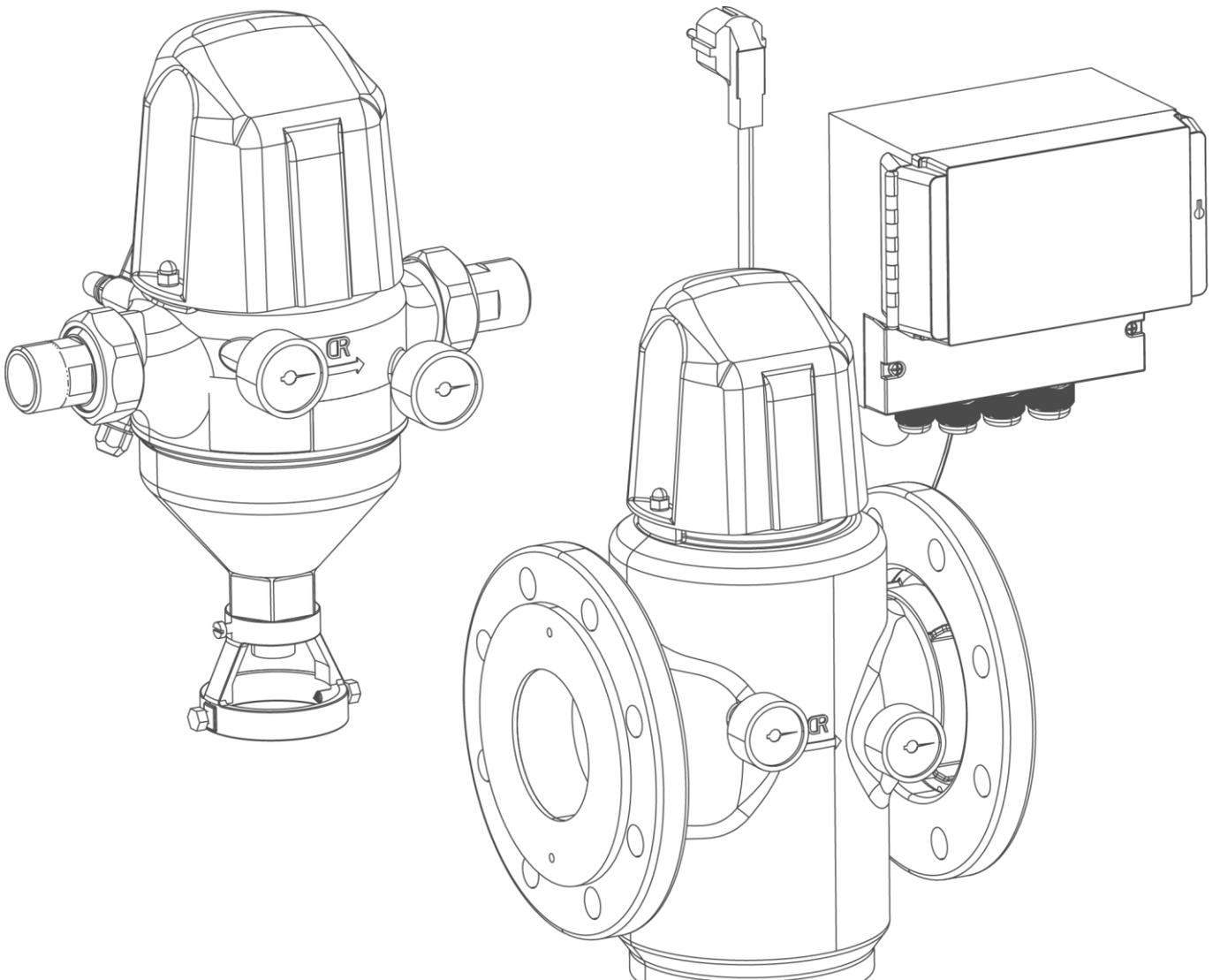


We understand water.



Filter | GENO-backwash filter MXA 1"- MXA DN 100

Operation manual

grünbeck

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**Original operation manual**

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# 1 About this manual

## 1.1 Other applicable documents

The following documents shall be considered as applicable documents for the GENO backwash filter as well:

- For Grünbeck's technical service/authorised service company:  
Technical service manual GENO-backwash filter MXA  
Order no.: TD4-AM001en
- The manuals of all accessories used.

## 1.2 Target group

This manual is intended for qualified specialists and owners/users.

## 1.3 Storage of documents

Keep this manual and all other applicable documents, so that they are available when needed. Make sure that your qualified specialist enters the proper start-up and annual maintenance in chapter 12 of the operation log.

## 1.4 Symbols used



This symbol identifies instructions that you must comply with for your own personal safety as well as to avoid damage to property.

---



This symbol identifies instructions that you must comply with in order to avoid damage to property.

---



This symbol identifies important information about the product or its handling.

---



This symbol identifies work that may only be carried out by a qualified specialist. In Germany, the installation company must be registered in an installation directory of a water supply company acc. to §12(2) AVB Wasser V (German Ordinance on General Conditions for the Supply of Water).

---



This symbol identifies work that may only be carried out by Grünbeck's technical service/authorised service company or by qualified specialists trained by Grünbeck.

---



This symbol identifies work that may only be carried out by electronically trained personnel according to the VDE guidelines or according to the guidelines of similar local institutions.

---

## 1.5 Typographical conventions

The following typographical conventions are used in this manual:

Designation	Depiction
Instruction Single-step instruction or chronological sequence of steps does not matter	▶ Action
Instruction Multi-step instruction and chronological sequence of steps is important	<ol style="list-style-type: none"> <li>1. First action                             <ol style="list-style-type: none"> <li>a first step</li> <li>b second step</li> </ol> </li> <li>2. Second action</li> </ol>
Result following an instruction	» Result
Lists	<ul style="list-style-type: none"> <li>• Listed item                             <ul style="list-style-type: none"> <li>• Listed sub-item</li> </ul> </li> </ul>
Menu paths	Status level>Menu level>Submenu
Display texts	Display text
Operating elements	Button/key

## 1.6 Validity of the manual

This manual applies to the following products:

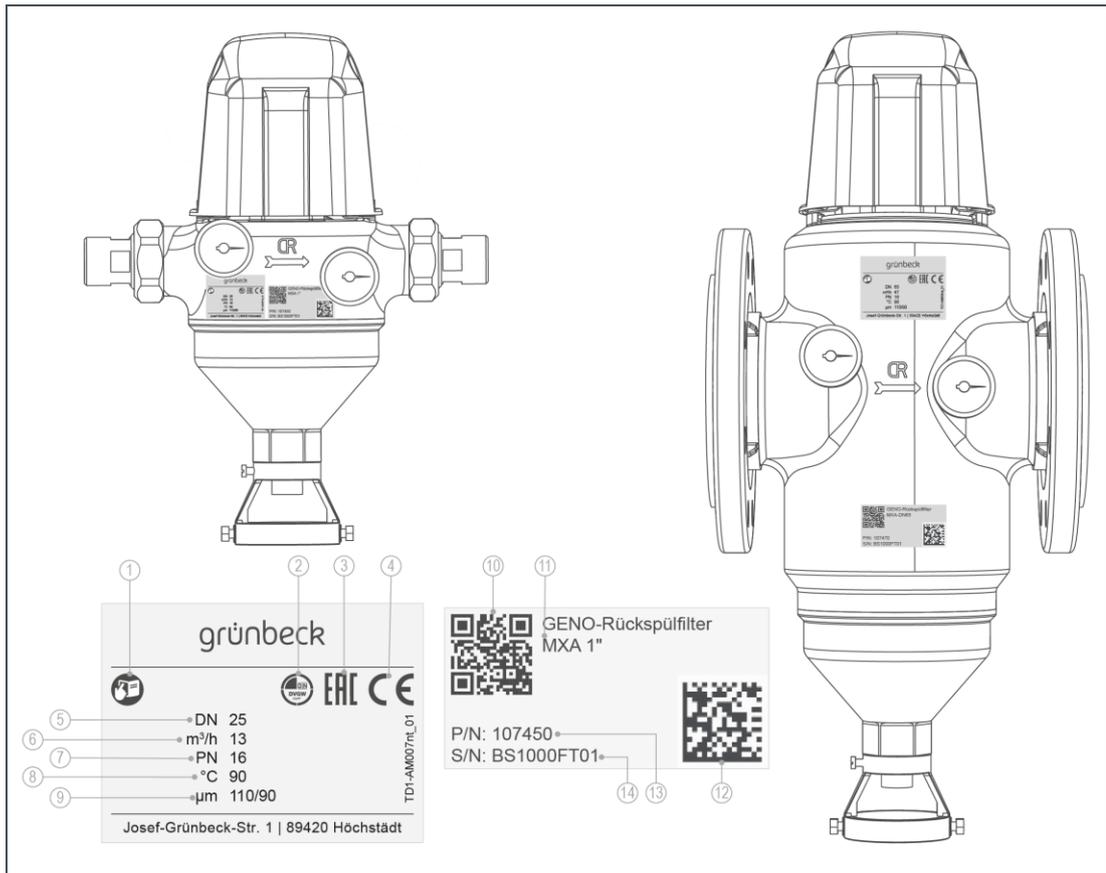
- GENO-backwash filter MXA 1" (DN 25)
- GENO-backwash filter MXA 1¼" (DN 32)
- GENO- backwash filter MXA 1½ (DN 40)
- GENO-backwash filter MXA 2" (DN 50)
- GENO-backwash filter MXA DN 65
- GENO-backwash filter MXA DN 80
- GENO-backwash filter MXA DN 100
- GENO Rückspülfilter MXA Switzerland version
- GENO Rückspülfilter MXA Denmark version

## 1.7 Type plate

The type plate is located on the front of the filter housing.

Please specify the data shown on the type plate in order to speed up the processing of your inquiries or orders.

- Therefore, add the serial number in order to have the necessary data available at all times.



Item	Designation	Item	Designation
1	Observe operation manual	2	DVGW test mark
3	EAC mark	4	CE mark
5	Nominal connection diameter	6	Nominal flow
7	Nominal pressure	8	Max. water temperature
9	Max./min. pore size	10	QR code
11	Product designation	12	Data matrix code
13	Order no.	14	Serial no.

- Product designation: GENO-backwash filter MXA \_\_\_\_\_
- Order number: 107 \_\_\_\_\_
- Serial no.: \_\_\_\_\_

## 2 Safety



**WARNING:** Contamination of drinking water due to improper handling.

- Risk of infectious diseases.
- ▶ Have the installation, start-up and annual maintenance carried out by qualified specialists only.

### 2.1 Safety measures

- Carefully read this manual before operating your product.
- Install the product in a frost-free room. Otherwise, the system may suffer irreparable damage. Water damage may occur as a result.
- Only use genuine spare parts for maintenance or repair. If unsuitable spare parts are used, the warranty for your product will be void.
- Do not use any products which have a damaged mains cable. This can lead to injuries due to electric shock. Have damaged mains cables replaced without delay.
- Keep your product permanently connected to the power and water supply.
- Comply with the hygiene instructions in chapter 8. Failure to comply can result in microbiological contamination of your drinking water installation.
- Only have persons working on your product that have read and understood the present manual and that are qualified to do such work due to their vocational training.
- Only operate the product if all components are installed properly.
- Safety equipment must never be removed, bridged or otherwise tampered with.
- Observe the maintenance intervals (refer to chapter 8.2). Failure to comply can result in microbiological contamination of your drinking water installation.
- This product can be used by children over 8 years of age and persons with limited abilities or lack of experience if they are supervised or instructed in the safe use of the product and understand the resulting hazards.
- Cleaning and maintenance must not be carried out by children.
- Keep the product away from children.

## 2.2 Technical safety instructions

This manual contains information and instructions that you must comply with for your own personal safety as well as to avoid damage to property. The information and instructions are highlighted by a warning triangle and have the following structure:



---

**CAUTION:** Type and source of danger.

- Possible consequences
  - ▶ Preventive measures
- 

The following signal words were defined subject to the degree of danger and may be used in the present document:

- **DANGER** means that death or serious injury will result.
- **WARNING** means that death or serious injury may result.
- **CAUTION** means that minor bodily injuries may occur.
- **NOTE** (without warning triangle) means that damage to property may occur.

## 2.3 Regulations

When installing and starting up the system, amongst others, comply with the following regulations and guidelines:

- Statutory regulations on environmental protection
- Provisions of the employers' liability insurance companies
- DIN EN 806 Specifications for installations inside buildings conveying water for human consumption
- VDI 6023 Part 5 - 7 Specifications for installations inside buildings conveying water for human consumption
- Low Voltage Directive 2014/35/EU, Appendix IV

## 2.4 Responsibilities of the qualified specialist and/or the specialist company

Comply with the following instructions to ensure the proper and safe functioning of the product:

- Only perform activities described in this manual.
- Perform all activities in accordance with all applicable standards and regulations.
- Brief the owner/user on the function and operation of the product.
- Advise the owner/user of the maintenance of the product.

- Inform the owner/user about possible dangers that can arise during the operation of the product.
- Fill in the operation log (refer to chapter 12).

## 2.5 Responsibilities of the owner/user

Comply with the following instructions to ensure the proper and safe functioning of the product:

- Arrange for a qualified specialist to carry out installation, start-up and maintenance.
- Have the product explained to you by the qualified specialist.
- Only perform activities described in this manual.
- Do not carry out any activities that are explicitly designated for a qualified specialist.
- Only use this product as intended.
- Make sure that the required inspection and maintenance work is carried out.
- Keep this manual.

## 2.6 Product-specific safety instructions



---

**WARNING:** If the intervals for inspection and backwash are not observed, the filter element will become excessively polluted.

- Health risk due to contamination of the drinking water.
  - ▶ Observe the intervals and recommendations for inspection and backwash of the filter element.
- 

## 2.7 Packaging, shipping and storage

### Transport

- ▶ Transport the filters only in their original packaging.

### Storage

- ▶ Protect the product from:
  - Damp, moisture, environmental impacts such as wind, rain, snow, etc.
  - Frost, direct sunlight, severe heat exposure
  - Chemicals, dyes, solvents and their vapours

## 3 Product description

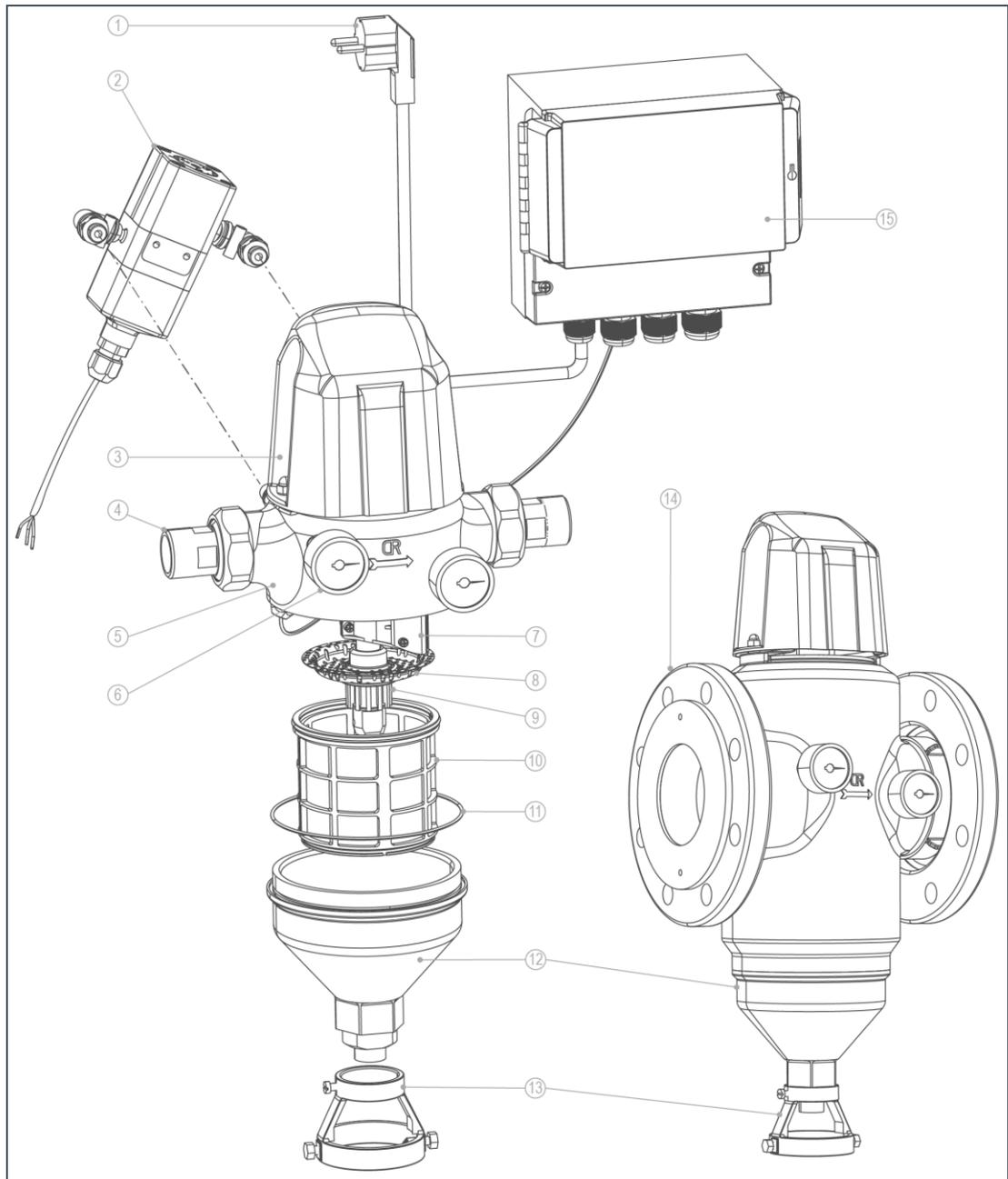
### 3.1 Intended use

- GENO-backwash filters MXA are designed for the filtration of drinking and industrial water.
- The filters are suitable for the filtration of process, boiler feed, cooling and air conditioning water – only in partial flow.
- The filters are suitable for water temperatures up to 90 °C.
- The filters can be used in the pressure range.
- The filters are designed according to the stipulations of DIN EN 13443-1 and DIN 19628 and are intended for installation into drinking water pipes according to DIN EN 806-2 (installation immediately downstream of the water meter).
- The filters protect the water pipes and connected water-carrying system parts from disturbances and corrosion damage due to undissolved impurities (particles), such as rust particles, sand, etc.

### 3.2 Foreseeable misuse

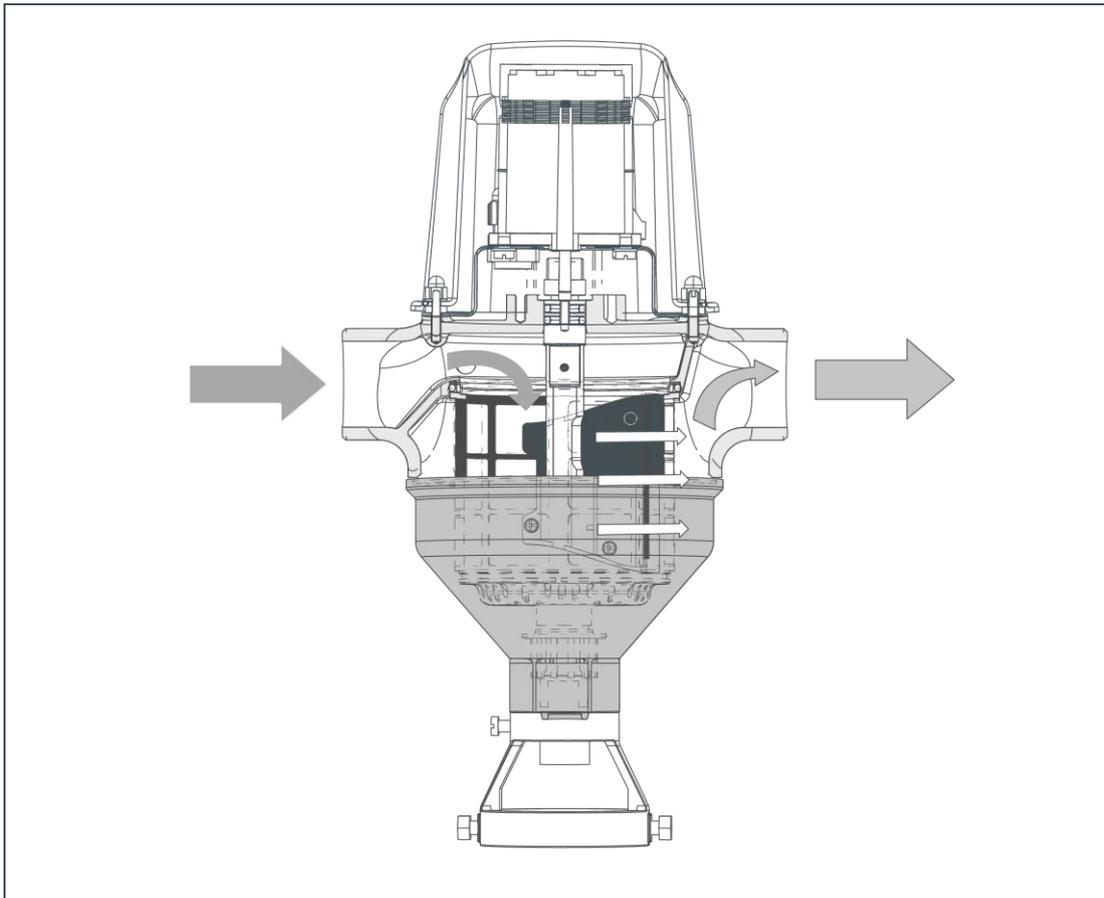
- The filters cannot be used in the negative pressure range.
- The filters are not suitable for circulation water that has been treated with chemicals.
- The filters are neither suitable for oils, greases, solvents, soaps and other lubricating media, nor for the separation of water-soluble substances.
- Do not install the filters in vertical water pipes.

### 3.3 Product components



Item	Designation	Item	Designation
1	Shock-proof plug, 1.5 m cable	2	Differential pressure sensor
3	Cover	4	Water meter screw connection
5	Filter housing	6	Pressure gauge
7	Brush	8	Sieve bottom
9	Suction nozzle	10	Filter element
11	Gasket	12	Filter funnel
13	Backwash water connection	14	Flange connection
15	Control unit GENO-RS-tronic		

### 3.4 Functional description



The unfiltered raw water flows into the filter from the inlet side and then from the inside out through the filter element and to the pure water outlet.

Thus, foreign particles of a size  $> 100 \mu\text{m}$  are retained.

Depending on their size and weight, the foreign particles stick to the filter element or they fall straight down into the filter funnel.

The backwash process is activated by the GENO-RS-tronic control unit and carried out by the drive unit on the filter head. The lower suction nozzle is lifted and the drain outlet is open.

During the rotating motion, the brush brushes over the filter surface of the filter element. The filter element is cleaned.

The impurities are removed by the brush and the suction nozzle sucks them into the drain outlet.

### 3.4.1 Backwash with the GENO-RS-tronic control unit

The GENO-RS-tronic control unit activates time and differential pressure controlled backwash processes.

Apart from a time interval for the activation of a backwash, an off-period during which no backwash processes may take place can also be defined.

An actuator opens the backwash water outlet. Initially, in clocked operation and then with continuous rotation.

The rotation triggers the contact of a microswitch via a cam disc. The microswitch sends pulses to the control unit. After several pulses, the control unit reverses the direction of rotation and closes the backwash water outlet.

If the rotary motion is blocked by dirt or wear and tear, the control unit detects this and responds automatically.

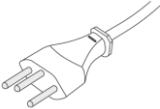
If the control unit cannot resolve the issue independently, a corresponding error message is displayed (refer to chapter 9).

The control unit features a voltage-free fault signal contact and a voltage-free contact for remote monitoring. A backwash in progress is signalled via the voltage-free contact.

The control unit monitors the number of backwashes. It provides - sometimes in conjunction with a timed maintenance interval - information on the remaining number of backwashes in the current maintenance interval via a bar graph in the display.

## 3.5 Swiss version

A country-specific power plug is supplied instead of a Schuko power plug.

Illustration	Product
	Swiss Power plug

## 3.6 Danish version

A country-specific power plug is supplied instead of a Schuko power plug.

Illustration	Product
	Danish Power plug

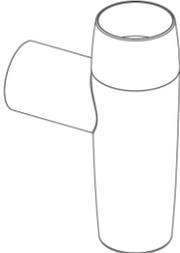
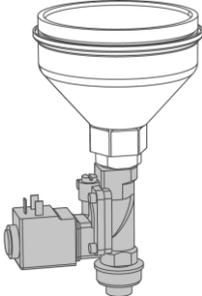
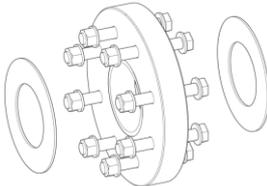
### 3.7 Accessories



You can retrofit your product with additional accessories. Please contact your local Grünbeck representative or Grünbeck's headquarters in Hoechstaedt for more details (refer to [www.gruenbeck.com](http://www.gruenbeck.com)).

According to DIN EN 13443 1, filter elements with 50 µm, 200 µm and 500 µm are not admissible for drinking water installations.

Designation	Order no.		
	1" / 1¼"	1½" / 2" / DN 65	DN 80 / DN 100
50 µm filter element	107 052	107 053	107 054
200 µm filter element	107 072	107 073	107 074
500 µm filter element	107 082	107 083	107 084

Illustration	Product	Order no.
	Drain connection DN 50 acc. to DIN EN 1717 with integrated siphon to discharge the backwash water to the drain.	<b>188 875</b>
	Safety valve for MXA GENO-RS-tronic-controlled, normally closed solenoid valve. Is installed at the backwash water outlet and prevents inadmissible water leakage during a backwash process, e.g. in case of a power failure.	<b>107 850</b>
	Adapter kit As spacer flange to secure the function of the shut-off valves mounted directly at the filter. Included in the scope of supply: 2 flanges, 4 seals, 16 screws M16x120 mm with discs and nuts	
	For MXA DN 80 with flange connection	<b>106 804e</b>
	For MXA DN 100 with flange connection	<b>106 805e</b>

## 4 Installation



---

The installation of a filter represents a major intervention into the drinking water system and may only be performed by a qualified specialist.

---

In accordance with DIN EN 806-2 and DIN EN 1717, the product is installed in the water pipe downstream of the water meter and upstream of distribution pipes or the systems to be protected.

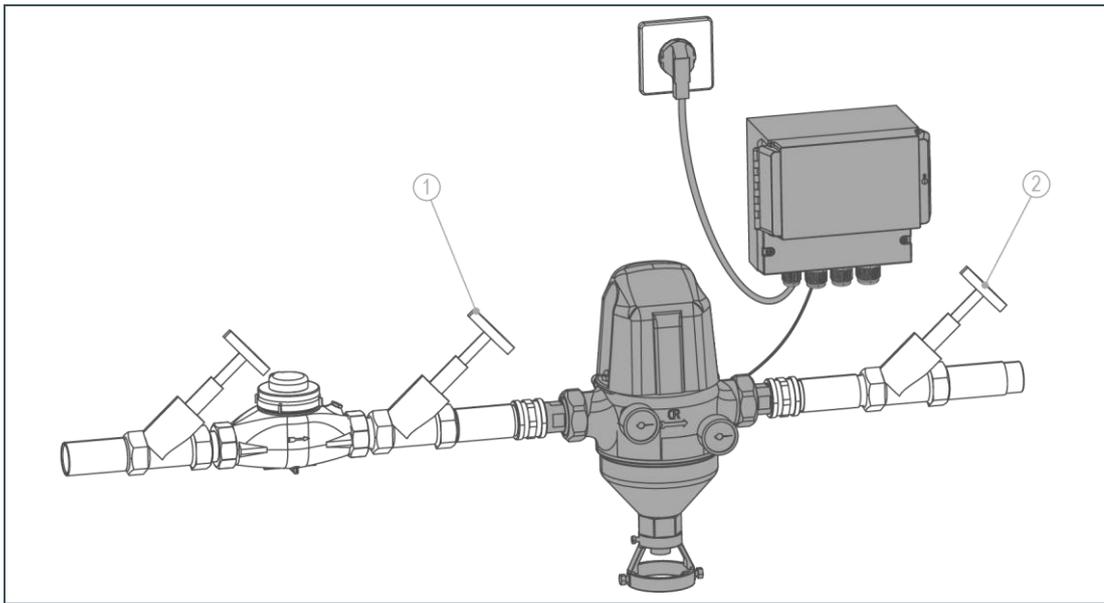


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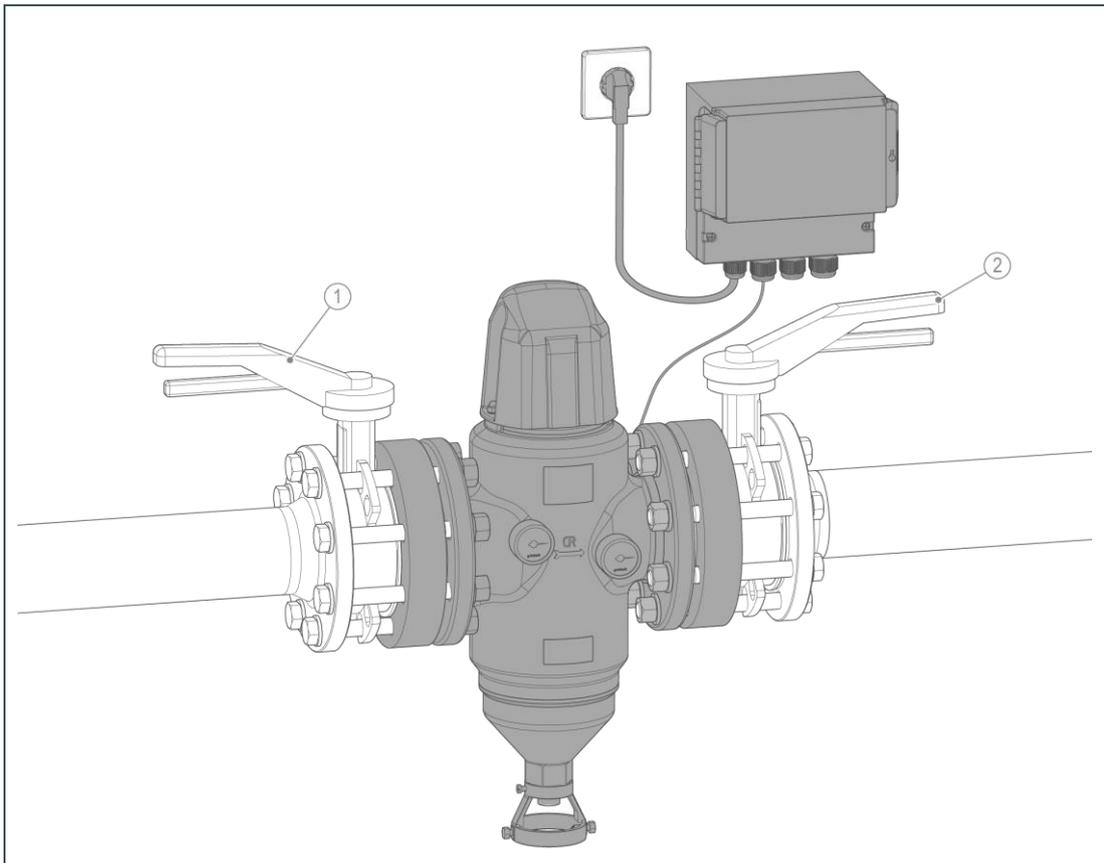
**NOTE:** Significant temperature differences occurring when the product is moved from one location to another can lead to moisture forming on electronic components within the control unit.

- Possible malfunction of the control unit during initial start-up.
  - ▶ We recommend unpacking the product prior to installation and allowing it to rest at the installation site for 1 hour without being used.
  - » Possible moisture formation on electronic components inside the control unit can dry off.
-

**GENO-backwash filter MXA with screw connections**



**GENO-backwash filter MXA with flange connections**



Item	Designation	Item	Designation
1	Inlet shut-off valve	2	Outlet shut-off valve

## 4.2 Requirements regarding the installation site

Observe local installation directives, general guidelines and technical specifications.

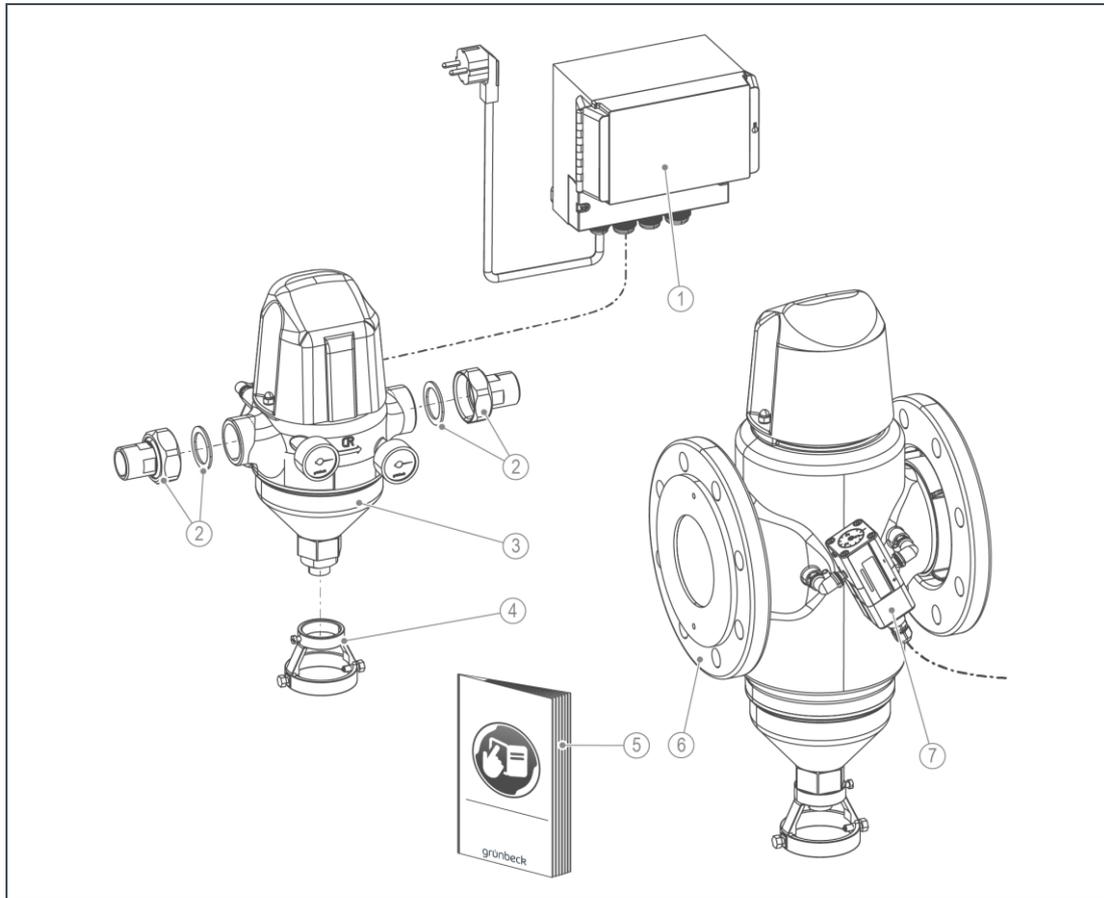
- The installation site must be frost-proof and ensure the filter's protection from chemicals, dyes, solvents and their vapours as well as direct sunlight.
- A drain connection (DN 50) must be available to discharge the backwash water.
- The installation room must provide a floor drain. If no floor drain is available, an appropriate safety device must be installed in order to prevent water damage. We recommend using a protectliQ:A.
- The installation site must be easily accessible for maintenance purposes.
- A shock-proof socket is required within a distance of approx. 1.2 m of the system.



**NOTE:** Power failure during the backwash process.

- Backwash will not be completed if the electrical power supply is interrupted.
  - The backwash process continues until it is terminated manually.
  - ▶ Do not connect the socket with light and heating switches.
-

### 4.3 Checking the scope of supply



Item	Designation	Item	Designation
1	Control unit GENO-RS-tronic	2	Water meter screw connection with gasket, union nut
3	Filter with screw connections	4	Backwash water connection
5	Operation manual	6	Filter with flange connections
7	Differential pressure sensor		



The filter is available with screw connections for sizes: 1" (DN 25), 1¼" (DN 32), 1½" (DN 40), 2" (DN 50)

The filter is available with flange connections for sizes: DN 65, DN 80, DN 100

- ▶ Check the scope of supply for completeness and possible damage.

## 4.4 Installing the product

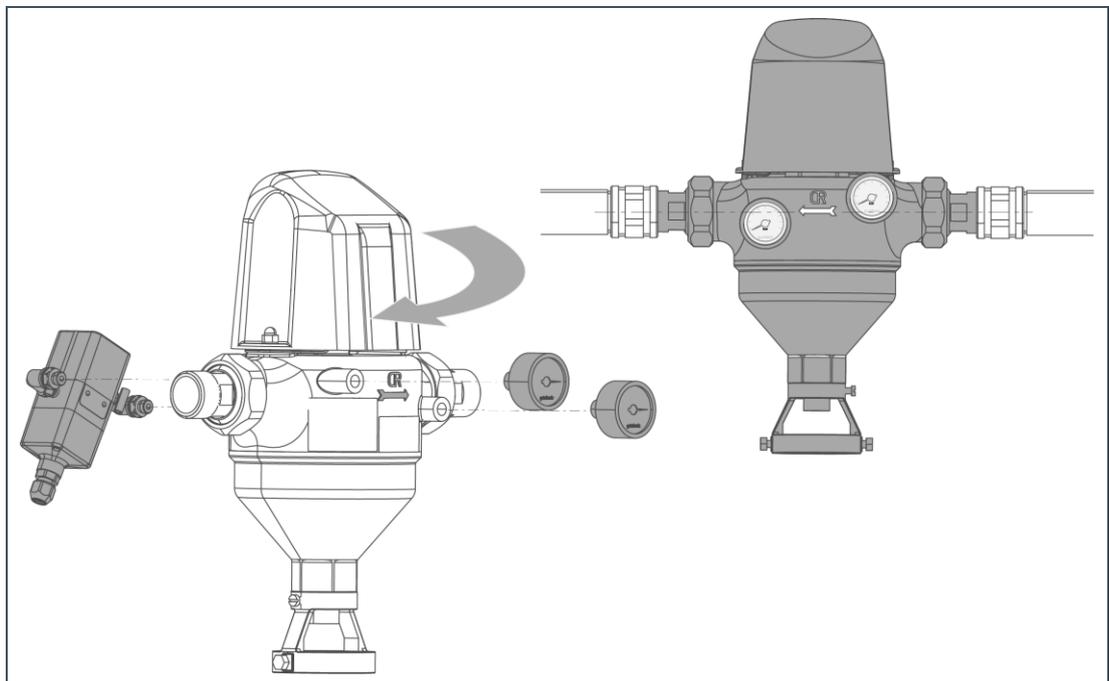


Only install the GENO-backwash filter MXA horizontally and without mechanical stress.

Please note the following points before installation:

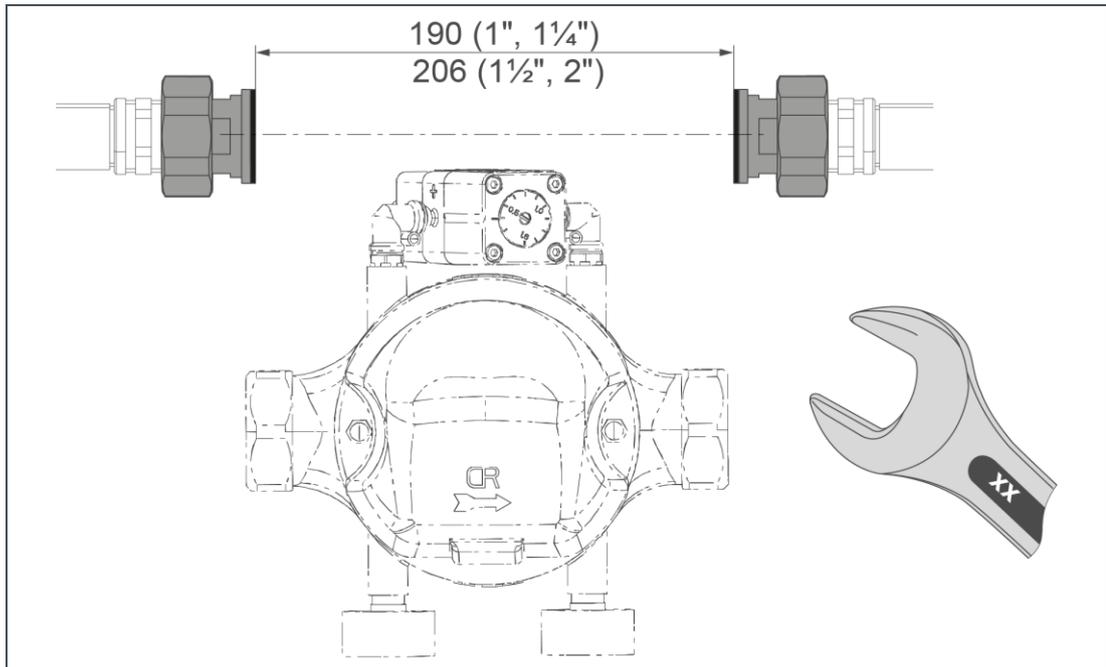
- Installation only possible in horizontal position
- Free outlet and discharge of the backwash water without backpressure

### 4.4.1 Changing the direction of flow

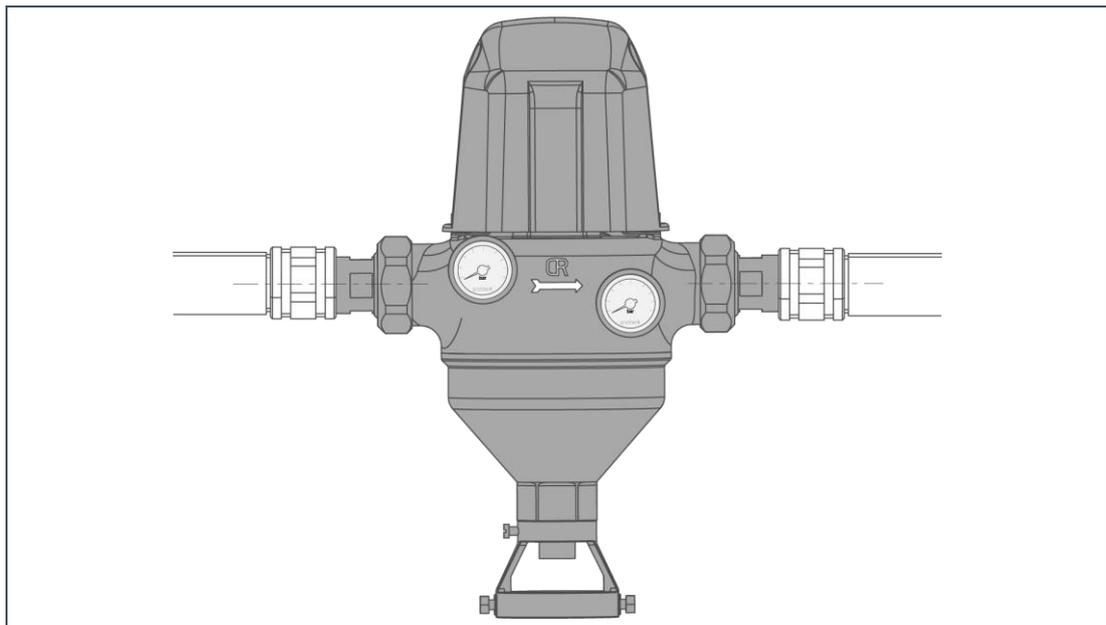


- ▶ Check the flow direction given on site.
- ▶ If necessary, remount the filter as follows:
  1. Unscrew the differential pressure sensor and the pressure gauges.
  2. Rotate the filter by 180°.
  3. Mount the differential pressure sensor and the pressure gauges.
 » The filter has been modified for flow direction to the left.

#### 4.4.2 Installing the GENO-backwash filter MXA with screw connections

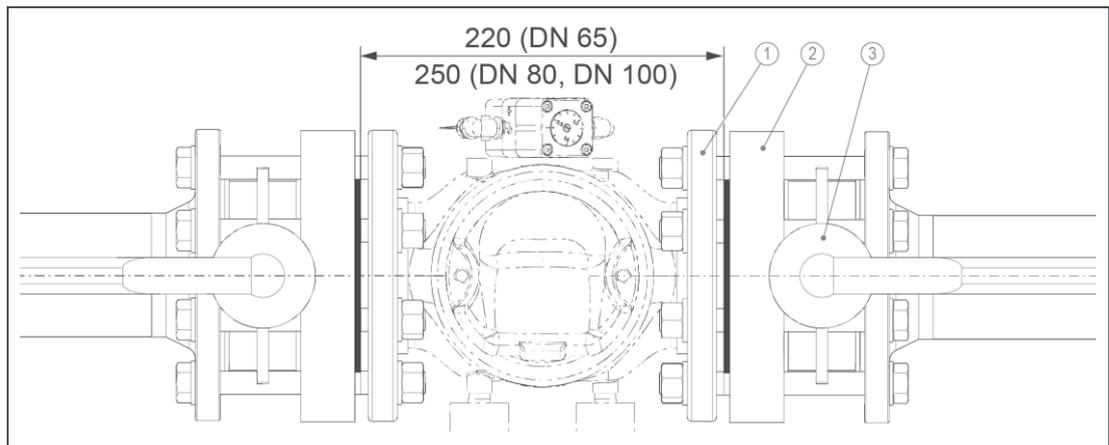


1. Install the pipe fitting into the pipe (the installation dimension must be: 190 mm for sizes 1", 1 1/4" and 206 mm for sizes 1 1/2", 2").
2. Position the filter (note the marking for the flow direction on the filter).
3. Tighten the filter at the pipe fittings using an open-ended wrench without applying mechanical stress



» The filter is mounted.

### 4.4.3 Installing the GENO-backwash filter MXA with flange connection



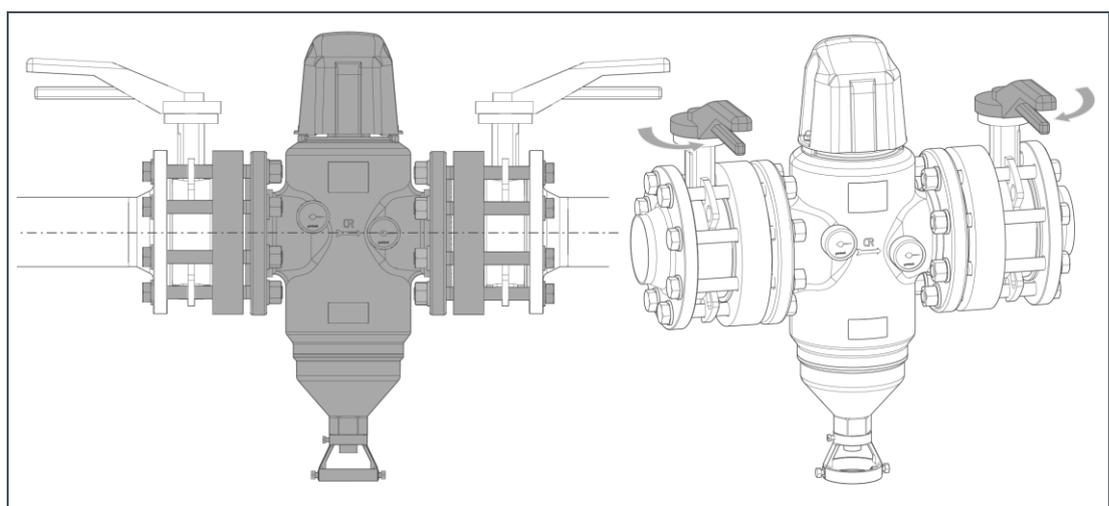
Pos.	Bezeichnung	Pos.	Bezeichnung
1	Loose flange	2	Adapter kit (for DN 80, DN 100 optional, refer to chapter Accessories <b>Fehler! Verweisquelle konnte nicht gefunden werden.</b> )
3	Shut-off valve		

1. Prepare the pipe with flange connection in accordance with DIN EN 1092-1 (the distance between the two gaskets must be: 220 mm for DN 65 and 250 mm for DN 80 and DN 100).
2. Position the filter (note the marking for the flow direction on the filter).
3. Tighten the filter at the flanges by means of the screw connections without applying mechanical stress.
  - a If required install an adapter kit (optional) in order to ensure the function of the shut-off valves.



The shut-off valves provided by the client must be able to open and close completely.

- ▶ Check the function of the shut-off valves after installation.



#### 4.4.4 Installing the backwash water connection



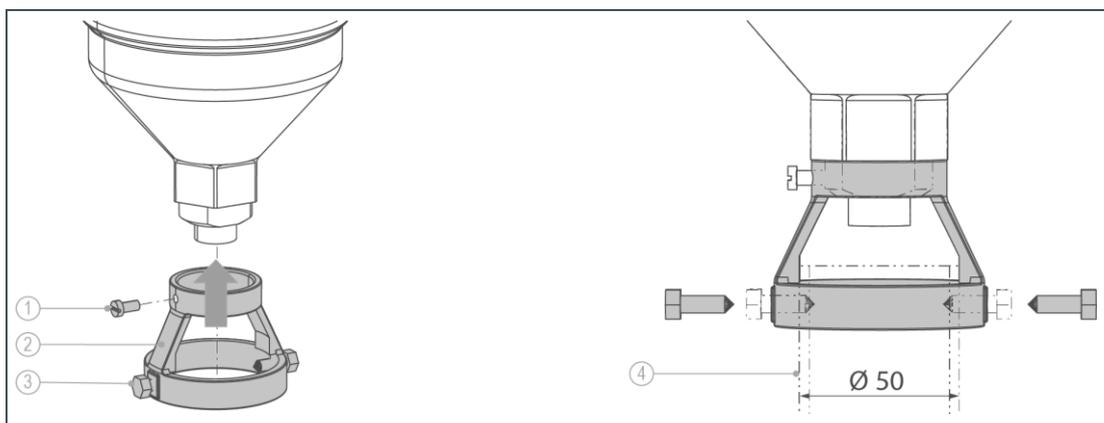
**CAUTION:** Splashing hot water at the drain outlet during backwash.

- Danger of scalding in case of hot water filtration without waste water pipe.
- ▶ For hot water filtration, install a fixed waste water pipe at the drain connection.



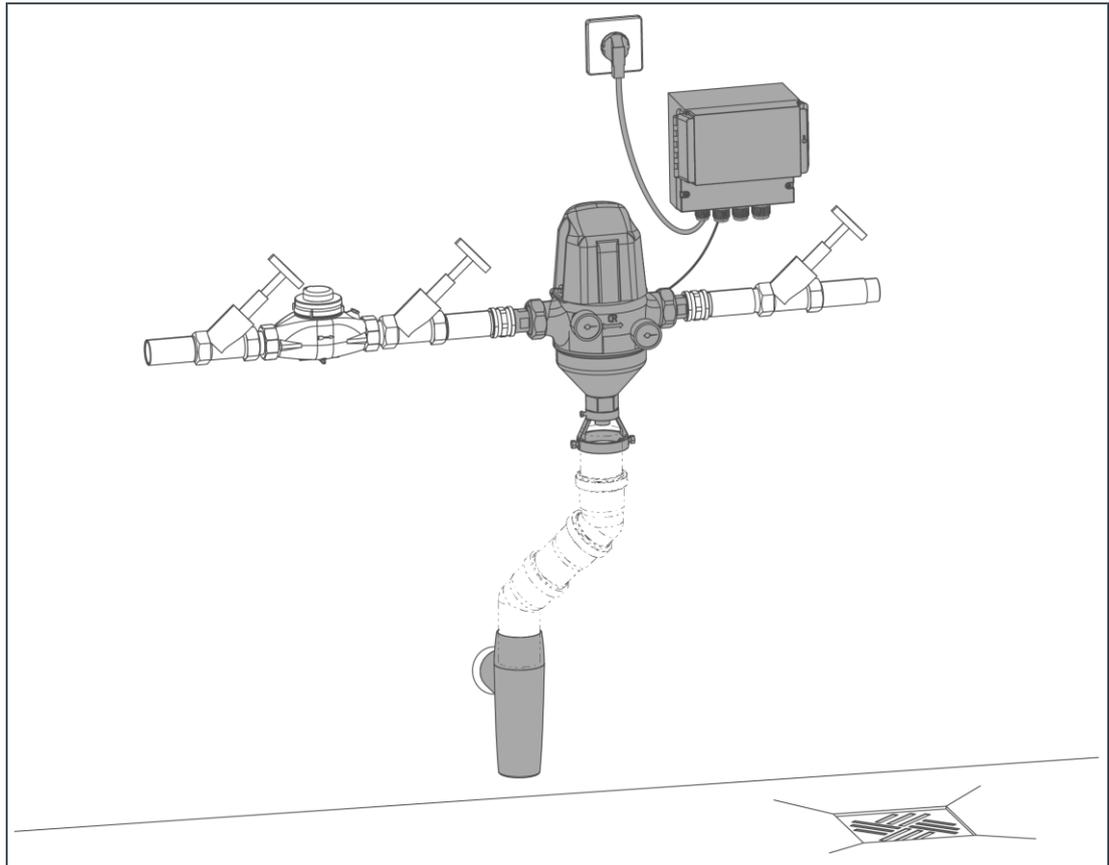
If it is not possible to install a waste water pipe, the backwash water can be collected in a bucket/container.

- ▶ Install a waste water pipe (not included in the scope of supply) at the pre-installed drain connection with free outlet.



Item	Designation	Item	Designation
1	Clamping screw	2	Backwash water connection
3	Pointed screw	4	Waste water pipe (HT pipe DN 50)

1. Push the backwash water connection onto the collar of the filter funnel.
2. Fix the backwash water connection by means of the clamping screw.
3. Push the waste water pipe into the backwash water connection as far as it will go.
4. Fix the waste water pipe with the pointed screws.



5. Install a waste water pipe towards the drain connection.
  - » The backwash water connection is installed.



The drain connection is available as an option (refer to Accessories, chapter 3.7). To install the drain connection, follow the mounting instructions (order no. TD5-BS002).

#### 4.4.5 Electrical installation

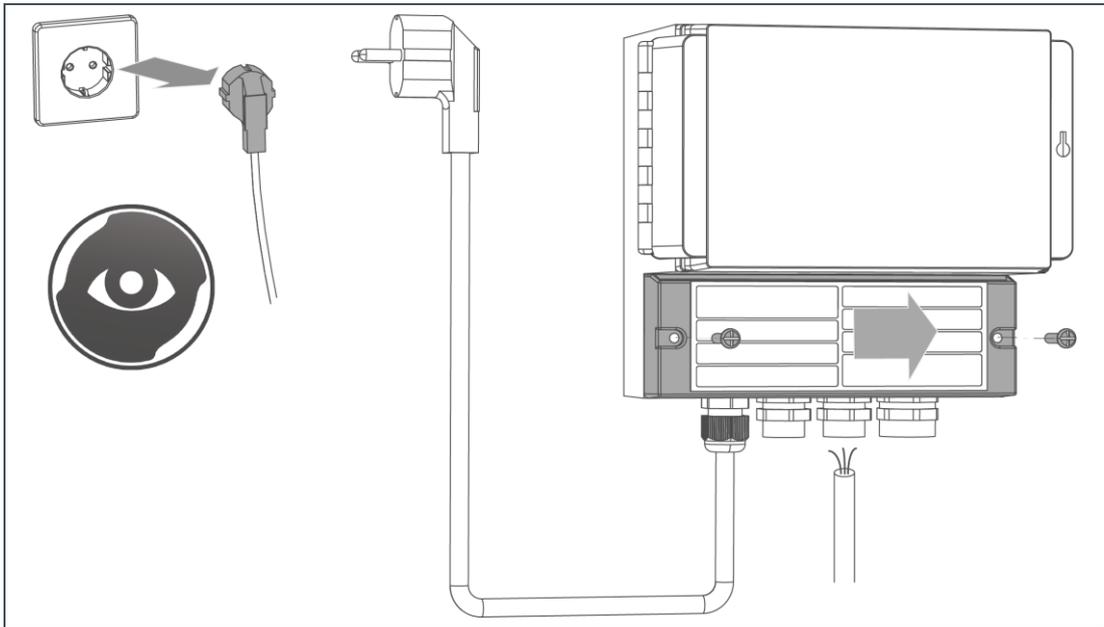


#### **DANGER!** Live components!

- Risk of electric shock when working on the electrical system.
- ▶ Make sure that the mains voltage is disconnected and that the plug is unplugged.
- ▶ Do not connect to mains until the connection work has been completed and the control unit is closed.

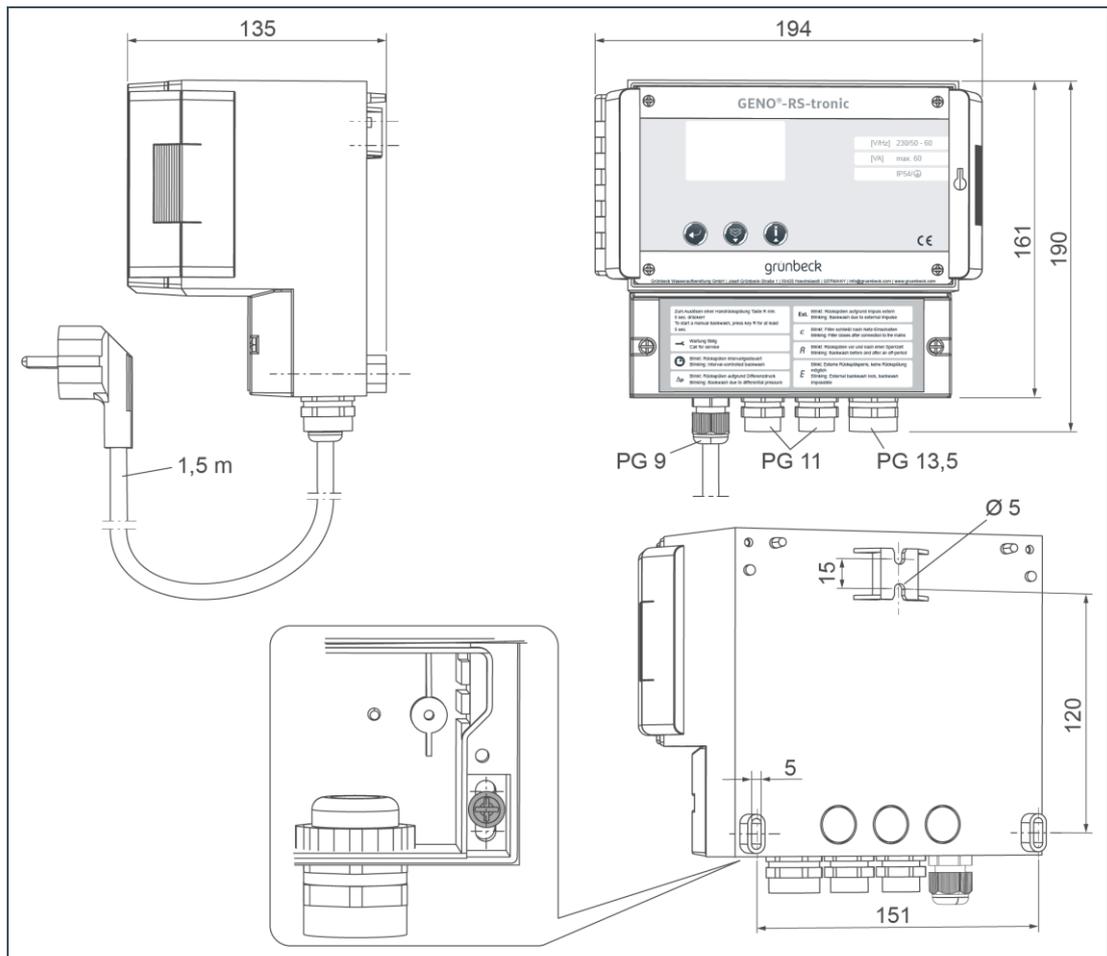


The electrical installation may only be carried out by a skilled craftsman.



- ▶ Unscrew the cover of the connections at the control unit.

## Fastening the control unit



The control unit must not be installed in the immediate vicinity of heat sources with high radiation temperatures.

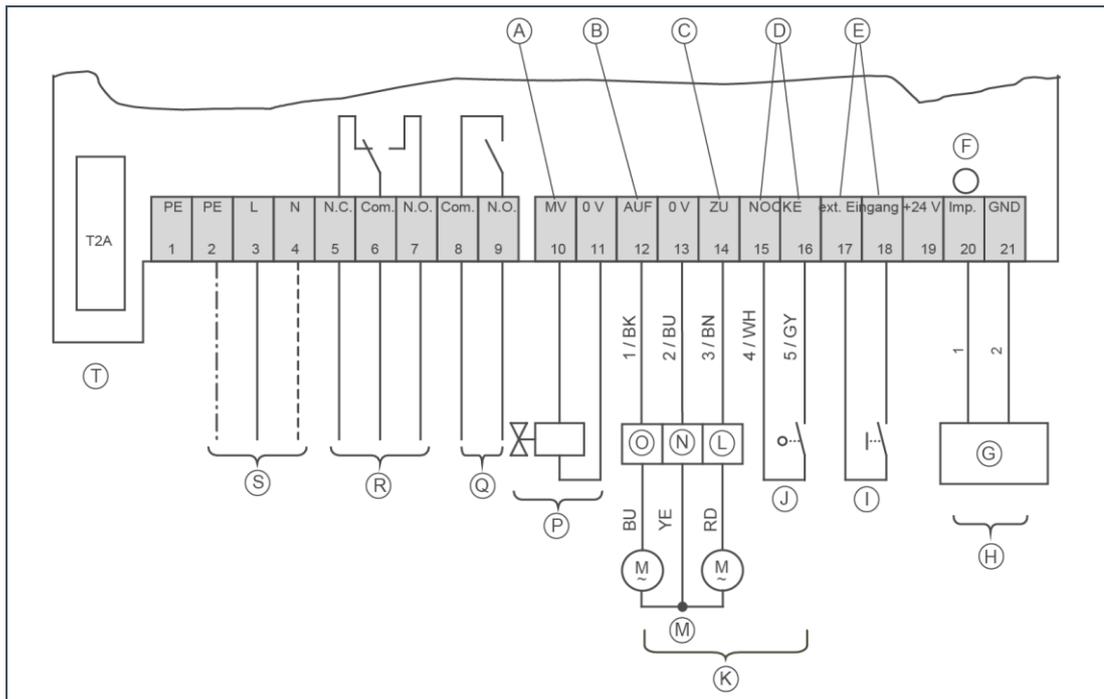
- ▶ Fasten the control unit on the wall.



**NOTE:** Securely fasten the control unit.

- Precarious and unsound fastening can cause the control unit to crash.
- ▶ Prior to fastening the control unit, check the wall type present.
- ▶ Select fasteners on site which are suitable for the respective wall type.
- ▶ Position the control unit while taking the length of the connecting cable into consideration - connecting cables must not be extended.
- ▶ Fix the control unit with three screws.

### Wiring diagram of the control unit



Wiring diagram of GENO-backwash filter MXA

Item	Designation	Item	Designation
A	Safety solenoid valve	K	Connecting line to filter
B	Backwash valve Open	L	Brown (BN)
C	Backwash valve Closed	M	Motor, 24 V~
D	Cam	N	Blue (BU)
E	Ext. input	O	Black (BK)
F	Illuminated LED: Voltage supply, cam-operated switch, programmable input and differential pressure switch OK	P	Safety device solenoid valve, 24 V ~, order no. 107 850
G	Differential pressure switch	Q	Backwash signal
H	Do not connect wire 3	R	Collective fault signal active, contact rating: 250 VAC/3A each
I	Programmable input	M	Mains 230 VAC/50 Hz
J	Cam-operated switch	T	System fuse, T2A

### General electrical installation

- Make the electrical connection according to the wiring diagram.
- 1. Connect the differential pressure cable to the control unit.
- 2. Connect the connecting lines to the filter with the control unit.
- 3. Connect additional accessories according to the wiring diagram.
- 4. Screw on the cover after the connection has been completed.
- » The general electrical wiring is completed.



Connection to mains voltage will only take place during start-up (refer to chapter 6).

## 4.4.6 Additional inputs and outputs

### Activation of backwash at external input

In addition to the general electrical wiring, you can install the control unit for external activation of the backwash.

- ▶ Connect the connecting line at the external input E, terminals 17 and 18.

This control unit input is designed for wiring with a voltage-free contact.

If it is closed for more than 1 second, a backwash will be carried out.

The prerequisites for the activation of a backwash at the external input are:

- No backwash active
- No error **Er 3** or **Er 5** active
- No backwash lock active

### Backwash lock at external input

As an alternative, the input can be used for an external backwash lock (refer to chapter 5.5.1, Parameter “d”).

### Combined operation of two GENO-backwash filters MXA

By means of these two inputs and outputs, two control units can be operated in combination, so that the two filters are not backwashed at the same time.

To do so, the external input is programmed for external backwash lock on both control units and connected to the signal output backwash of the respective other control unit:

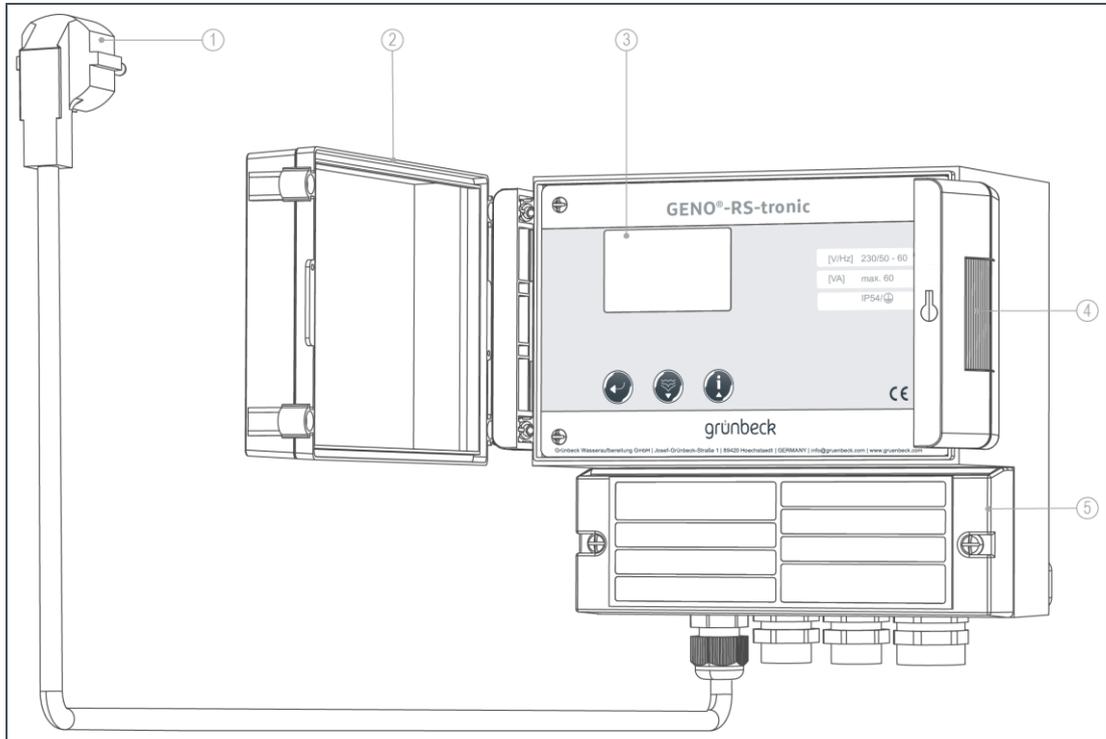
Filter 1		Filter 2
Terminal 17	to	Terminal 8
Terminal 18	to	Terminal 9
Terminal 8	to	Terminal 17
Terminal 9	to	Terminal 18



The collective fault signal is designed as active, voltage-free change-over contact.

## 5 Control unit GENO-RS-tronic

### 5.1 Components of the control unit



Item	Designation	Item	Designation
1	Shock-proof plug, 1.5 m cable	2	Cover
3	Operating / Menu level	4	Release button
5	Connection level		



**NOTE:** Incorrect setting/operation of the control unit

- Dangerous operating conditions/functional impairments may occur - health/personal/property damage possible
- ▶ Only make the settings described in this chapter.
- ▶ Have additional settings made by qualified specialists or trained personnel only – (refer to the Technical service manual “GENO-RS-tronic”).

## 5.1.1 Releasing a backwash

With the GENO-RS-tronic, a backwash can be activated in:

### 1. Automatic release by time interval

- The time interval is adjustable from 1 hour - 99 days.
- The time interval is generally active.
- From an interval period  $\geq 1$  day, the start time can be programmed as well.
- An off-period during which no backwash will be released can be activated.
- Automatic backwash before and after the off-period.

### 2. Automatic activation after a differential pressure is reached

- The differential pressure sensor detects the differential pressure between the raw water side and the pure water side.
- The differential pressure sensor triggers a backwash when approximately 0.4 bar is exceeded. Default setting = 0.4 bar; adjustable from 0.16 – 1.6 bar.
- The differential pressure evaluation can be deactivated.

### 3. Activation by external signal

The backwash can be triggered by means of an external voltage-free contact.

If the contact is closed for more than 1 second, a backwash will be carried out.

Prerequisites for activation via the external contact are:

- No backwash lock is active
- No backwash is active
- No error **Er 3** or **Er 5** is present

The input can be reprogrammed for an external backwash lock.

### 4. Manual activation

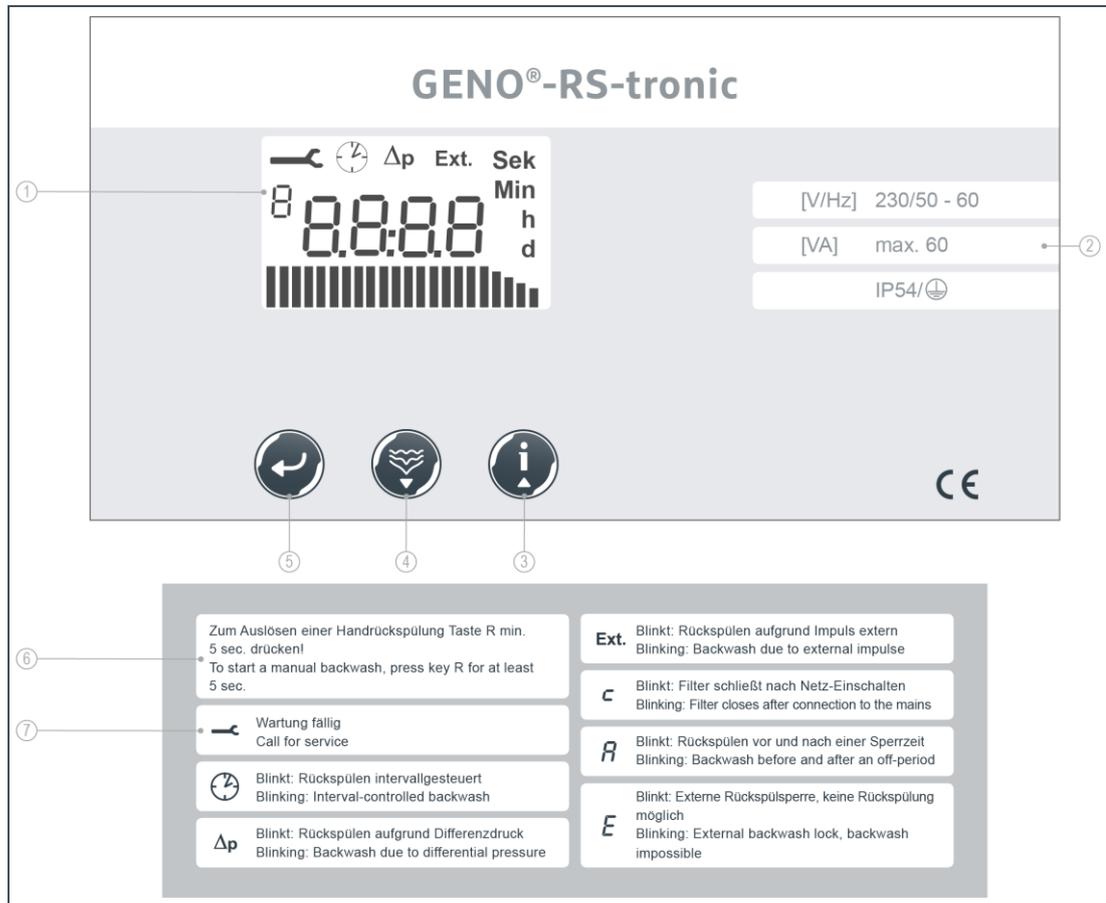
The backwash can be activated manually by way of the  button on the control unit (refer to chapter 7.2.2). No backwash lock must be active. The basic display (time) must be indicated.

### Behaviour of the backwash filter if there is a power failure

From software version V3.2 on, the time is retained for a maximum of 180 min in the event of a power failure. The number of the software version can be retrieved via Code level "999" (refer to chapter 5.5.2).

If a power failure interrupts the backwash process for a maximum of 180°min, it will be terminated correctly afterwards.

## 5.2 Overview of display



Item	Designation	Item	Designation
1	Display	2	Connection data of the control unit
3	Button  for information	4	Button  for backwash
5	Button  for program	6	Explanation of manual backwash
7	Explanation of symbols displayed		

## 5.2.1 Display indication

First line	
Illustration	Explanation
	<p><b>Wrench</b></p> <ul style="list-style-type: none"> <li>• Displayed with error messages</li> <li>• If the maintenance interval has elapsed or when more backwash processes were carried out per maintenance interval than permitted.</li> </ul>
	<p><b>Clock</b></p> <p>Indicates an interval-controlled backwash:</p> <ul style="list-style-type: none"> <li>• Statically - when the interval-controlled backwash is active</li> <li>• Flashing - when an interval-controlled backwash is in progress</li> <li>• Switched off - when a backwash lock is active</li> </ul>
	<p><b>Differential pressure</b></p> <p>Indicates a differential pressure controlled backwash:</p> <ul style="list-style-type: none"> <li>• Statically - when the differential pressure evaluation is activated</li> <li>• Flashing - when a backwash triggered by differential pressure is in progress</li> <li>• Switched off - when a backwash lock is active</li> </ul>
	<p><b>External trigger active</b></p> <p>Indicates a backwash triggered by an external control signal:</p> <ul style="list-style-type: none"> <li>• Statically - when the programmable input is set for activation of an external backwash</li> <li>• Flashing - when a backwash triggered by the external signal is in progress</li> <li>• Switched off - when a backwash lock is active</li> </ul>
Second line	
Illustration	Explanation
<p><b>Sek</b> <b>Min</b> <b>h</b> <b>d</b></p>	<p><b>Unit</b></p> <p>Indicates the unit of the adjacent numerical value:</p> <ul style="list-style-type: none"> <li>• Seconds</li> <li>• Minutes</li> <li>• Hours</li> <li>• Days</li> </ul>

**Second line**



**Standard operation**

- Indicates the time (basic display)

**Information menu level**

- Indicates the operating parameters

**User menu level**

- Indicates the numerical value of the parameter in the menu
- Open parameters are flashing



**Parameter number (small figure)**

- In all menus, indicates the number of the parameter in the current menu level

Additionally, and depending on the situation:

- “H” flashes during manual backwash and backwash after acknowledgement of an error
- “A” flashes during automatic backwash 5 minutes before and at the end of an off-period
- “E” flashes if the programmable input is set as backwash lock and the external signal is present
- “c” flashes if the filter is moved to the “CLOSED” position after the system voltage has been switched on
- “C” is displayed statically if a programming level is to be opened and the code no. is displayed

**Third line**

**Illustration**

**Explanation**

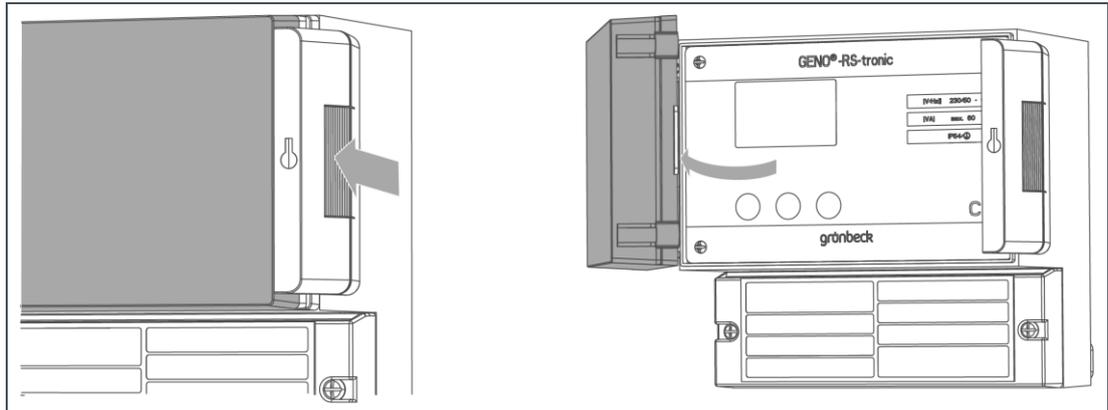


**Maintenance display**

Indicates the lesser of the two values by percentage:

- Remaining days of the current maintenance interval
- Remaining number of backwash processes in the current maintenance interval

## 5.3 Navigating the control unit



- ▶ Press the release button on the side.
- » The cover of the control unit is unlocked and can be opened.

### 5.3.1 Buttons

Illustration	Designation	Function
	<b>Program</b> Button <b>P</b>	<p>In <b>standard mode</b>:</p> <ul style="list-style-type: none"> <li>• Switches to User menu level.</li> </ul> <p>In the <b>User menu level</b>:</p> <ul style="list-style-type: none"> <li>• Opens parameters</li> <li>• Saves the settings and closes parameters</li> </ul>
	<b>Backwash</b> Button <b>R</b>	<p>In <b>standard mode</b>:</p> <ul style="list-style-type: none"> <li>• Starts the manual backwash</li> </ul> <p>In the <b>User menu level</b>:</p> <ul style="list-style-type: none"> <li>• Switches to previous parameter</li> <li>• Decreases numerical values</li> </ul> <p>During <b>start-up</b>:</p> <ul style="list-style-type: none"> <li>• Closes the filter</li> </ul>
	<b>Info</b> Button <b>I</b>	<p>In <b>standard mode</b>:</p> <ul style="list-style-type: none"> <li>• Calls up the Info level</li> <li>• Switches the display to the next position</li> </ul> <p>In the <b>User menu level</b>:</p> <ul style="list-style-type: none"> <li>• Switches to the next parameter</li> <li>• Increases numerical values</li> </ul>

### 5.3.2 Selecting menu levels

Objective	Step
Status level	<p>▶ Press the buttons  and  at the same time.</p>
Information level	<p>▶ Press the  button in the status level 1x - 6x, rotating through the display and back to the basic display.</p>
User menu level	<p>▶ Press the  button in the status level for more than 2.5 s.</p>
Programming menu level	<p>▶ Press the buttons  and  in the status level at the same time for more than 1 s.</p> <p>» The display switches from the time to three flashing digits "000" and the parameter no. changes to "C".</p> <ol style="list-style-type: none"> <li>1. Press the  or the  button to select Code 113.</li> <li>2. Press the  button to confirm your selection.</li> </ol>
Menu level Software Version	<p>▶ Press the  and the  button in the status level at the same time for more than 1 s.</p> <p>» The display switches from the time to three flashing digits "000" and the parameter no. changes to "C".</p> <ol style="list-style-type: none"> <li>1. Press the  or the  button to select Code 999.</li> <li>2. Press the  button to confirm your selection.</li> </ol>

### 5.3.3 Setting the parameters

Objective	Step
Selecting parameters	In every menu level, the  button switches to the next parameter and the  button switches to the previous parameter.
Opening parameters	When the desired parameter is displayed: <ul style="list-style-type: none"> <li>▶ Press the  button.</li> <li>» The value of the parameter flashes.</li> </ul>
Changing parameters	When the open parameter flashes: <ul style="list-style-type: none"> <li>▶ Press the  button for lower and the  button for higher values.</li> </ul>
Closing parameters without saving	If you want to exit the setting of the open parameter without making any changes: <ul style="list-style-type: none"> <li>▶ Press the  and the  button at the same time.</li> <li>» The parameter will be closed, and the unchanged value is displayed continuously.</li> </ul>
Saving parameters	When the right value flashes in the display: <ul style="list-style-type: none"> <li>▶ Press the  button to save the value.</li> <li>» The parameter will be closed, and the set value is displayed continuously.</li> </ul>
Exiting the menu level	If you have made the desired settings: <ul style="list-style-type: none"> <li>▶ Press the  and the  button at the same time.</li> <li>» The display shows the basic display (time) in the status level.</li> </ul>
Automatic return to the basic display	The system also returns to the basic display if no entry is made for more than 1 minute. <ul style="list-style-type: none"> <li>» Entries which had not been saved are lost.</li> </ul>

## 5.4 Menu structure

Menu level	Menu items	Values/settings
Status level	Acknowledgement of malfunctions	Press one of the three buttons.
	Manual backwash	Press the  button for more than 5 s
	Select the menu level	Refer to chapter 5.3.2
Information	1	Current configuration of the backwash.
	2	Active backwash interval, [hh:mm]
	3	Status of backwash lock
	4	Start time of backwash lock, when active, [hh:mm]
	5	Current configuration of microswitch
	6	Return to basic display
User	Set the time	Hours and minutes separately, [hh:mm]
Programming / Code-protected levels	For settings and displays (refer to chapter 5.5).	

## 5.5 Programming levels

### 5.5.1 User programming level via Code 113

Status level > Code-protected level 113

Parameters	Meaning	Factory settings	Setting range
0 Evaluation of the differential pressure signal	The GENO-RS-tronic utilises the differential pressure switch to detect independently when a backwash is required	1	0 = Differential pressure signal is not evaluated 1 = Differential pressure signal is evaluated
1 Backwash interval	Time after which a backwash takes place automatically	30 d	1 – 23 h (hours), here, a backwash always takes place at the full hour 1 – 99 d (days), here, the time can be programmed in the parameters that follow as well
2 Start time of the interval-controlled backwash (hours)	When the backwash interval, parameter “1”, is set in range 1 - 99 d	01:	00: - 23:
3 Start time of the interval-controlled backwash (minutes)	When the backwash interval, parameter “1”, is set in range 1 - 99 d	:00	:00 - :59
4 Activation of a timed backwash lock	The timed backwash lock can be used to suppress any backwash for a programmable period of time	0	0 = Timed backwash lock deactivated 1 = Timed backwash lock active

If the backwash lock is activated, a backwash is performed automatically 5 min before the start and after the end of the backwash lock.



A minimum of 1 hour must be scheduled between the start and the end of a backwash lock. The interval-controlled backwash must be scheduled at a time outside of an active backwash lock.

Parameters	Meaning	Factory settings	Setting range
5	Start time of the timed backwash lock (hours)	If the timed backwash lock, parameter 4, is activated 01:	00: - 23:
6	Start time of the timed backwash lock (minutes)	If the timed backwash lock, parameter 4, is activated :00	:00 -:59
7	End time of the timed backwash lock (hours)	If the timed backwash lock, parameter 4, is activated 01:	00: - 23:
8	End time of the timed backwash lock (minutes)	If the timed backwash lock, parameter 4, is activated :00	:00 -:59
9	Maintenance responsibility	Maintenance work must be carried out by either the owner/user or Grünbeck's technical service/authorised service company 1	0 = Maintenance work is carried out by the owner/user 1 = Maintenance work is carried out by Grünbeck's technical service/authorised service company
A	Acknowledgement of maintenance	The owner/user notifies the GENO-RS-tronic that maintenance was carried out 0	0 = Basic mode 1 = Programming to perform the function
b	Operating mode of GENO-RS-tronic	Operation of the control unit on a Grünbeck-backwash filter of model series MXA or MSA. Major differences between the two operating modes: In case of MXA, the rotation is monitored via microswitch pulses; direction of rotation during backwash 0	0 = MXA 1 = MSA



Only change the factory settings of the following parameter "C" if special motors or special gear boxes are used.

Parameters	Meaning	Factory settings	Setting range
C	Gearing	MXA: Gearbox output speed 8 min <sup>-1</sup>	MXA: 1.0 - 15.0 min <sup>-1</sup>
		MSA: Gear ratio 46:1	MSA: 31:1, 46:1, 62:1
d	Programmable input	For wiring and application refer to chapter 4.4.6. 0	0 = external activation of backwash 1 = external backwash lock

## 5.5.2 Software version via Code 999

Status level>Code-protected level 999

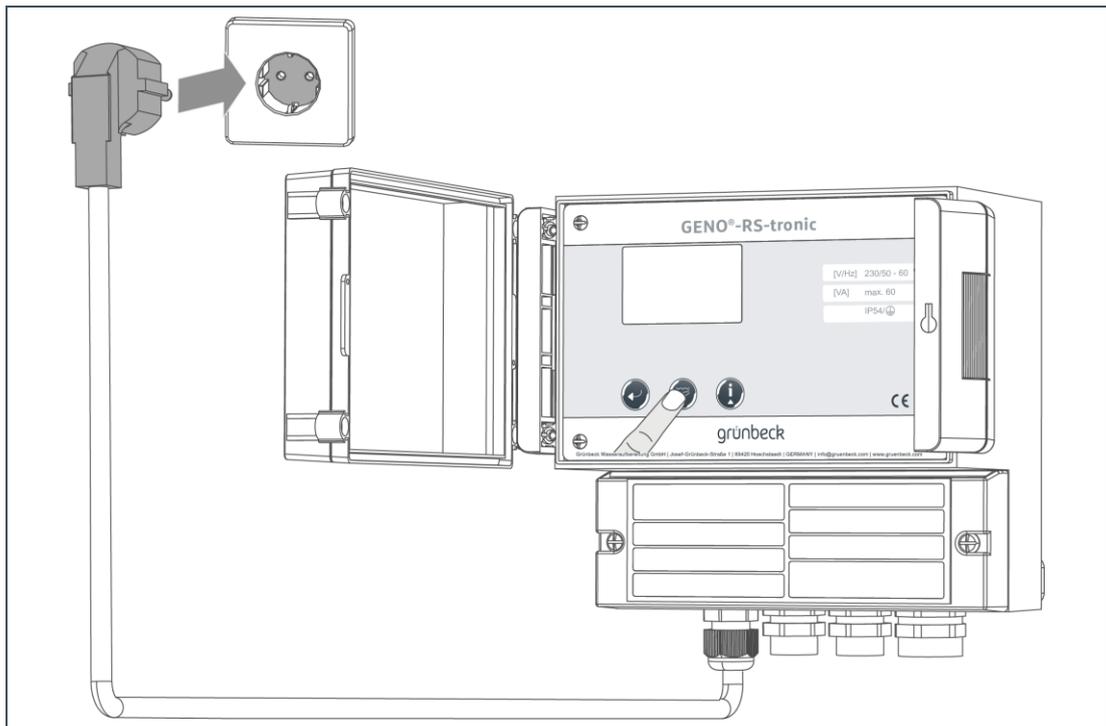
Parameters	Meaning	Factory settings	Setting range
C	Software version	Software version of control unit 0	-

## 6 Start-up

### 6.1 Preparations



**NOTE:** Upon delivery, the drain outlet of the GENO-backwash filters MXA is open.



► Close the open drain outlet for 1.5 min:

1. Press and hold the  button.
2. Plug the mains plug into the socket.
3. Release the  button.



**NOTE:** Faulty connection/installation

- Filter is not closing, or the green lamp above terminal 20 only lights up dimly or not at all.
- Disconnect the mains plug and check the installation of the product.

## 6.2 Starting up the product

- ▶ Carry out the following steps after installation and after every maintenance.
  1. Set the time (refer to chapter 7.2.1).
  2. Set other operating parameters, if necessary (refer to chapter 7.2).
  3. Open the shut-off valves.
  4. Open the closest water withdrawal point downstream of the filter to the maximum.
  5. Apply the maximum operating pressure.
    - » The filter is vented.
  6. Check the filter for tightness.
  7. Carry out a backwash.
    - » The filter is in operation.

## 6.3 Handing over the product to the owner/user

- ▶ Explain to the owner/user how the product works.
- ▶ Use the manual to brief the owner/user and answer any questions.
- ▶ Inform the owner/user about the need for inspections and maintenance.
- ▶ Hand over all documents to the owner/user for keeping.
- ▶ Enter the initial start-up in the operation log (refer to chapter 12.1).

# 7 Operation

## 7.1 Information in the basic display

Status level



The display continuously gives information on the operating state of the system.

Indicating parameters in the basic display:

- Functions that are activated to trigger a backwash.
- Function by which the current backwash was triggered.
- Whether a backwash lock is active.
- Time until the next maintenance and/or the remaining number of backwash processes until the next maintenance.
- Time stored.

### 7.1.1 Retrieving information

Status level>Information level

Press the  button to call up information about other parameters:

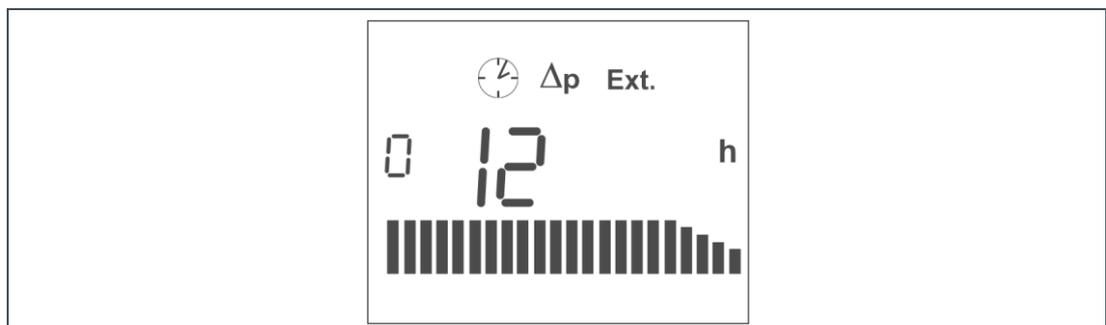
Button pressed	Indication	Explanation
1 x	0	Backwash function with differential pressure signal OFF (deactivated)
	1	Backwash function with differential pressure signal ON (active)
2x	± XX %	Active interval for backwashing in hours or days
3 x	0	Backwash lock function deactivated
	1	Backwash lock function active

Button pressed	Indication	Explanation
4x	-	Go to 5x if backwash lock function is deactivated
	XX:XX	Start time of backwash lock
	YY:YY	End time of backwash lock
5x	XX:YY	Number of microswitch pulses during the last backwash process. The displayed value is only updated during the ongoing backwash
	XX	Upon opening, factory setting 36
	YY:	Upon closing, factory setting 34...40
6x	XX:XX	Display is reset to basic display (time)

## 7.2 Setting parameters in the User level

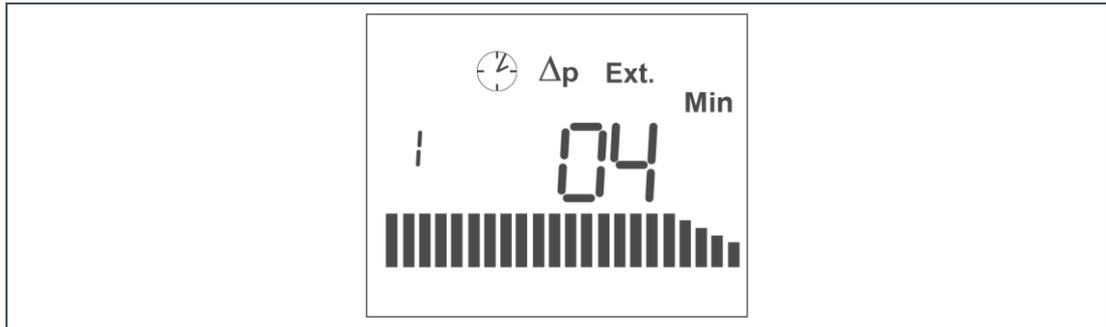
### 7.2.1 Setting the current time

Status level>User level



► Set the current hour and minutes:

1. Press the  button to open the parameter for the hours.
  - » The display for hours flashes.
2. Press the  or the  button to set desired value.
3. Press the  button to save the setting.
  - » The current hour is saved.



4. Press the  button to switch to the display for minutes.
5. Press the  button to open the parameter for the minutes.
  - » The display for minutes flashes.
6. Press the  or the  button to set desired value.
7. Press the  button to save the setting.
  - » The current time is set.

## 7.2.2 Starting a backwash manually

Status level

- ▶ Press and hold the  button for more than 5 s.
  - » A manual backwash is carried out.

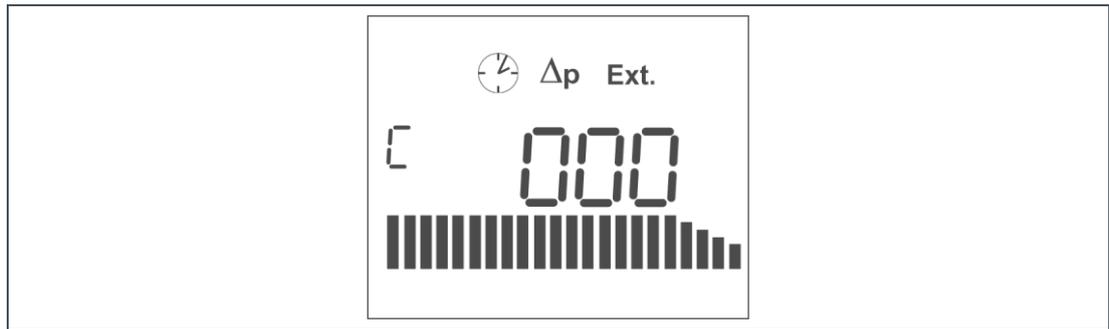
## 7.3 Setting parameters in the Programming level



Settings deviating from the factory settings may only be carried out by trained technical service personnel.

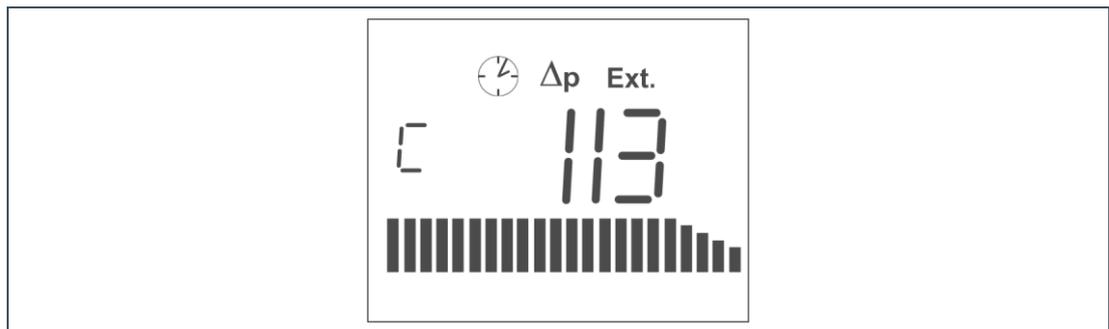
Status level>Programming level

### 7.3.1 Entering the Code



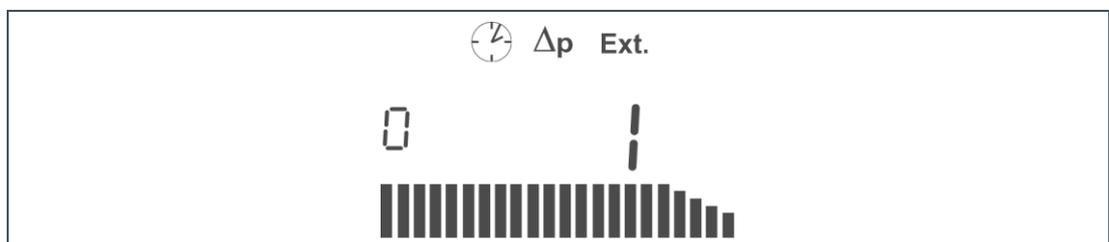
- ▶ Press the buttons  and  in the status level for more than 1 s.
- » The display switches from the time to the three flashing digits “000” and the parameter no. switches to “C”.

1. Press the  or the  button to select code 113.



6. Press the  button to confirm the selection.

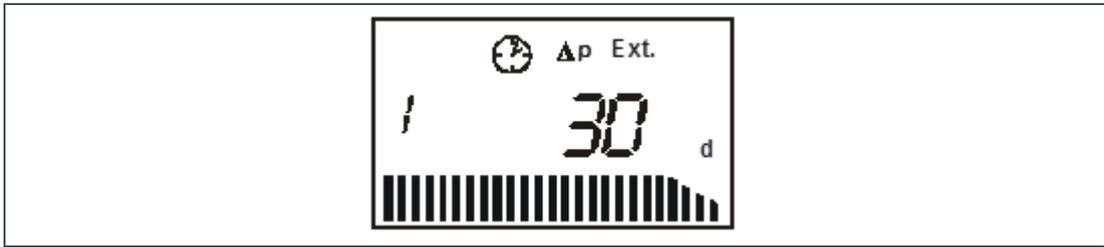
### 7.3.2 Evaluation of the differential pressure signal



7. Press the  button to switch to the evaluation of the differential pressure signal.

### 7.3.3 Setting the backwash interval

The example below shows you how to work in the programming level/code-protected level.



The interval-controlled backwash is always active and set to 30 d in the factory setting.

You can choose between two configurations:

Period	Range	Explanation
Hours	[h] 1 - 23	Backwash at the full hour every h hours
Days + Hours	[d] + [h] (1 – 99) + (1 – 23)	Backwash every d days and, in the next menu, h hours.

#### Setting the backwash interval:

1. Press the  button to switch to parameter „1“.
  - » In the factory setting, the following is displayed:
    - “1” for the selected parameter
    - The value “30” for the days set
    - The unit “d” for days
2. Press the  button to open the parameter.
  - » The value of the parameter flashes.
3. Press the  or the  button to set the desired value of the parameter.
4. Press the  button to save the value.
  - » The value of the parameter stops flashing.
  - » The days are set.
5. Press the  button to switch to the display of the value for the hours.
6. Press the  button to open the parameter for the hours.

7. Press the  or the  button to set the desired value of the parameter.
8. Press the  button to save the value.
  - » The value of the parameter stops flashing.
  - » The hours are set.
- ▶ Press the  and the  button at the same time to return to the status level (basic display).



Programming further parameters is done in an analogous manner.

---

## 8 Cleaning, inspection, maintenance



**WARNING:** Danger of contaminated drinking water if the work is not carried out properly.

- Risk of infectious diseases.
- ▶ Pay attention to hygiene when working on the installation.

---

Inspection and maintenance of a filter is prescribed in the DIN EN 806-5 standard. Regular maintenance ensures trouble-free and hygienic operation.



A maintenance contract ensures that all the required maintenance work will be performed in due time.

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

### 8.1 Cleaning



**WARNING:** Damp cleaning of live components

- Risk of electric shock! Sparking possible due to short circuit.
- ▶ Disconnect the mains plug prior to cleaning work.
- ▶ Make sure that no voltage is applied to the systems.

- 
- ▶ Only clean the outside of the product.
  - ▶ Do not use any strong or abrasive cleaning agents.
  - ▶ Wipe the housing with a damp cloth.



**NOTE:** Do not clean the filter with cleaning agents that contain alcohol or solvents.

- These substances will damage components.
  - ▶ Use a mild/pH-neutral soap solution.
-

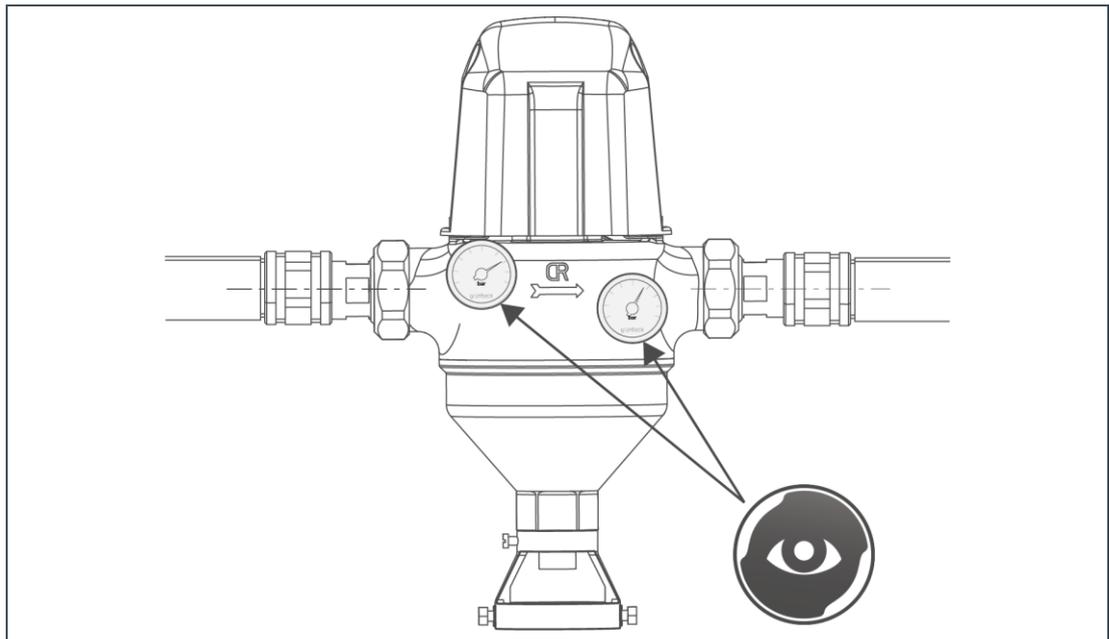
## 8.2 Intervals

Task	Interval	Execution
Inspection	2 months	Visual/functional check
Maintenance	6 months	Manual backwash
	Annually	Check O-rings, flat gaskets and brush for wear and tear, check tight fit, backwash
Maintenance	5 years	Recommended: changing filter element, gaskets, suction nozzle unit

## 8.3 Inspection

According to DIN EN 806-5, the owner/user must inspect the filters every 2 months.

1. Check the installation for leaks.
2. Open several water withdrawal points (generate max. flow).



3. Read the inlet and outlet pressure at the pressure gauges.
4. If the system's differential pressure cannot be relieved by means of one or several backwash processes, a malfunction has occurred (refer to chapter 9).



We recommend performing a backwash every 2 months.

## 8.4 Maintenance

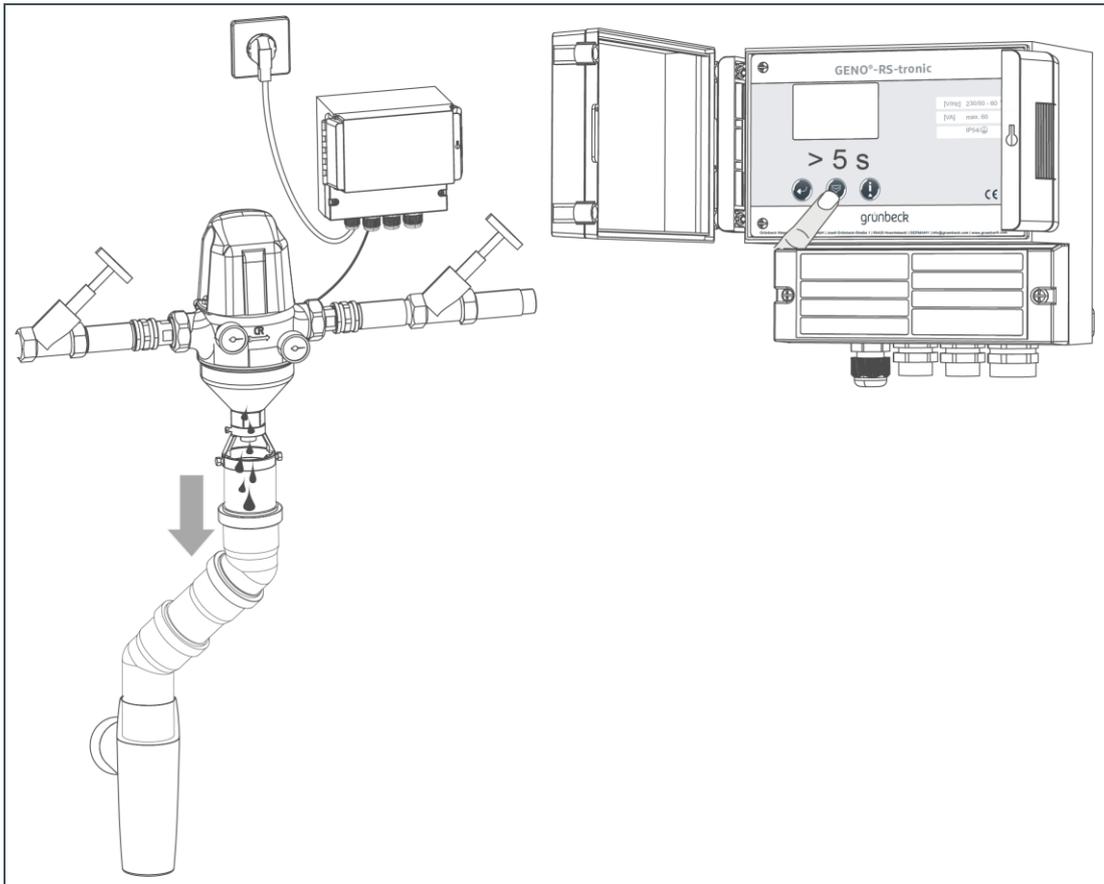


**WARNING:** Non-regular backwash of the filter element

- Health risk due to contamination of the drinking water.
- ▶ Observe the intervals for inspection and backwash of the filter element.

### 8.4.1 Semi-annual maintenance

#### Manual backwash of the filter



During the backwash process, filtered pure water is still available.

- ▶ Press and hold the  button for more than 5 s.
- » A manual backwash is carried out.



---

If the raw water is heavily contaminated, the standard backwash water outlet can be increased from Ø 6.5 mm to max. Ø 7.5 mm. This increases the cleaning effect and the amount of backwash water per backwash.



This measure may only be carried out by a qualified specialist. Refer to Technical service manual TD4-AM001 for GENO-backwash filter MXA.

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#### 8.4.2 Annual maintenance



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Carrying out annual maintenance work requires specialist knowledge. This kind of maintenance work may only be carried out by Grünbeck's technical service/authorised service company or by qualified specialists trained by Grünbeck.

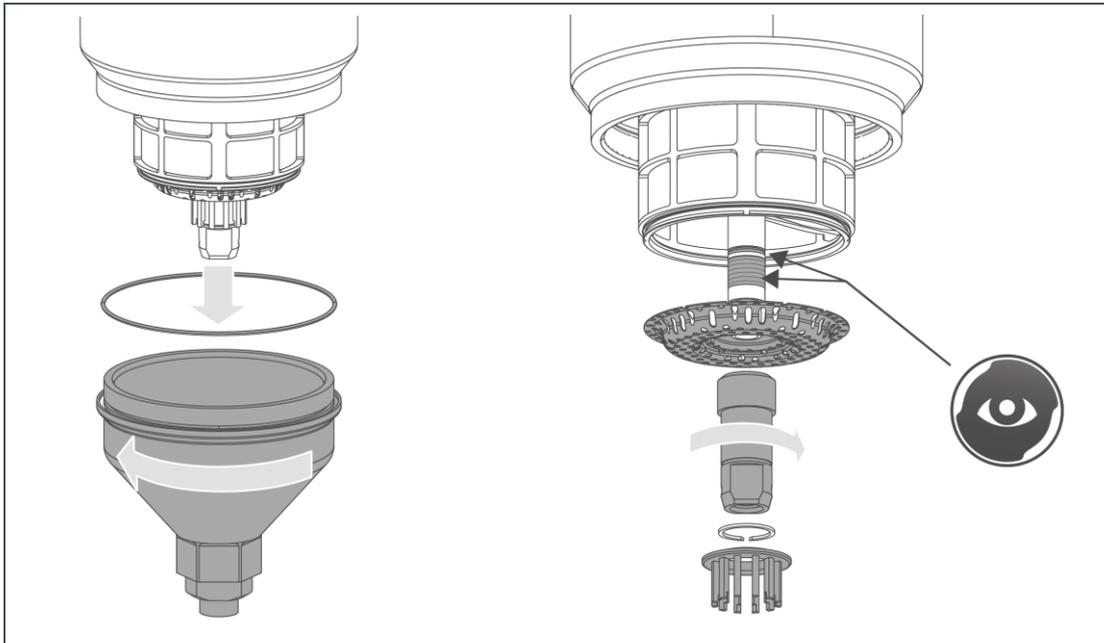
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In addition to the semi-annual maintenance, the following work needs to be done:

1. Check the O-rings for wear and tear.
2. Check the filter for tight fit and leaks.
3. Check the brushes for wear and tear.

### Opening and checking the filter

1. Close the inlet and outlet shut-off valves.
2. Initiate a manual backwash.
  - » Backwash water exits via the drain valve.
3. Disconnect the system's mains plug after 5 s.
  - » The suction nozzle stops in its position and the water can flow out of the filter.



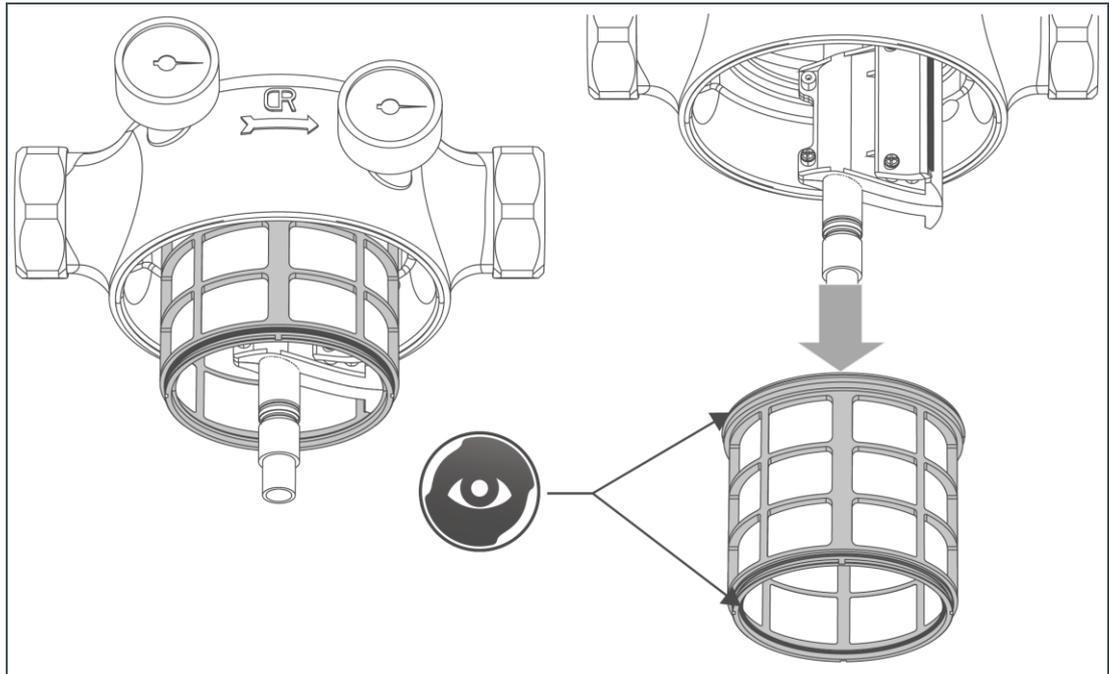
4. Unscrew the filter funnel – turn anti-clockwise.
5. Unscrew the lower suction nozzle from the pipe nozzle.
6. Remove the sieve bottom.
7. Check the thread coating and the O-ring for wear and tear.



If the thread is worn, the complete suction nozzle unit must be replaced.

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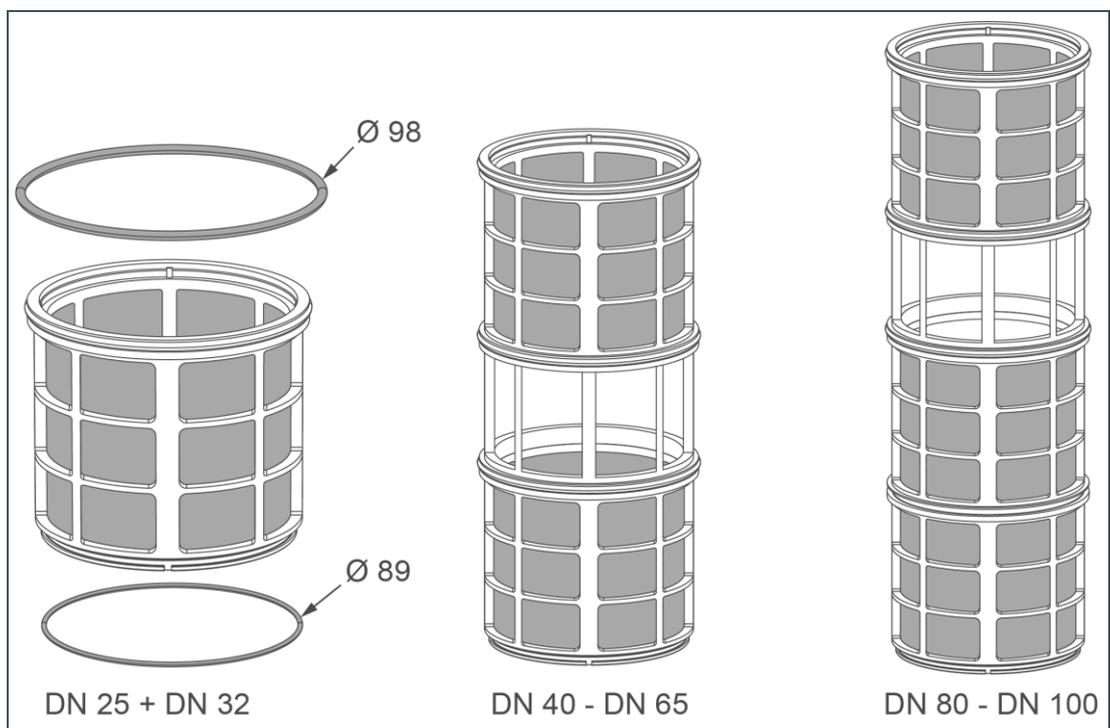
8. If the thread and O-ring are not worn:  
Clean the thread and O-ring and apply food-safe grease, e.g. UNI-Silicon L641;  
order no. 128 619.



9. Remove the filter element.

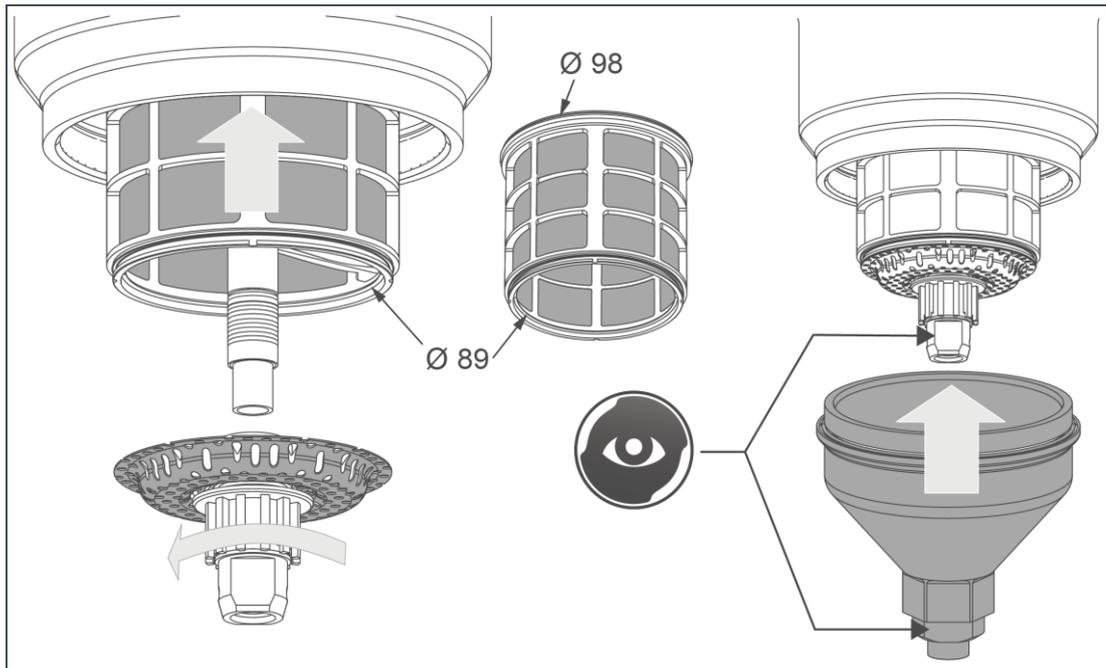
10. Check the filter element for impurities and damage.

11. Check the O-rings of the filter element (outside and inside) for wear and tear.



Depending on the filter size, different filter elements are combined. If one filter element is damaged, you can either replace one filter element or a complete set of filter elements. The individual filter elements are detachably connected by means of a snap connection.

### Closing the filter



1. Fit the O-rings to the filter elements. Slide the filter elements with the larger  $\varnothing$  pointing forward over the suction nozzle into the housing of the filter.
2. Position the sieve bottom between the pipe nozzle and the lower suction nozzle.
3. Screw the lower suction nozzle onto the pipe nozzle until the O-ring is just not visible any longer.
4. Slide the filter funnel onto the suction nozzle – the two flat faces of the filter funnel must be parallel to the wrench flat at the suction nozzle.
5. Screw on the filter funnel.
6. Put the filter into operation – refer to chapter 6.
  - » The filter is ready to use.

## 8.5 Spare parts

For spare parts and consumables please contact your local Grünbeck representation which you can find on the internet at [www.gruenbeck.de/Service/Ersatzteilkatalog](http://www.gruenbeck.de/Service/Ersatzteilkatalog).



According to DIN EN 13443 1, filter elements with 50 µm, 200 µm and 500 µm are not admissible for drinking water installations.

Use of filter elements with pore sizes: 50 µm, 200 µm and 500 µm only after consultation with Grünbeck Wasseraufbereitung GmbH – refer to Accessories on page 14.

Designation	Order no.		
	1" / 1¼"	1½" / 2" / DN 65	DN 80 / DN 100
100 µm filter element	107 061	107 062	107 063

## 8.6 Wearing parts



Although these parts are wearing parts, we grant a limited warranty period of 6 months.

Designation	Order no.		
	1" / 1¼"	1½" / 2" / DN 65	DN 80 / DN 100
Gasket kit (O-rings)		107 755	
Lower nozzle		107 021e	
Brush		107 860e	
(quantity required)	1 piece	2 pieces	3 pieces

## 9 Troubleshooting



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**WARNING:** Risk of contaminated drinking water due to unintentional, significant reduction in pressure.

- Risk of infectious diseases.
- ▶ Remedy this malfunction immediately.

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▶ If you cannot remedy malfunctions with the instructions given below, contact Grünbeck's technical service/authorised service company.

▶ Have your system data (refer to chapter 1.7) handy.



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Troubleshooting may only be carried out by a qualified specialist.

Refer to Technical service manual for GENO-backwash filter MXA (order no. TD4-AM001).

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### 9.1 Display messages

Status level

1. Acknowledge the malfunction **Er X** by pressing one of the three buttons on the display.
2. Watch the display.
3. If the cause of the error was not eliminated, the error will reoccur after a short period of time.

Troubleshooting	Explanation/Cause of error	Troubleshooting
<b>Er 1</b>	Control unit does not receive enough pulses from the microswitch	Contact the qualified specialist or Grünbeck's technical service.  If water leaks from the drain opening, close the filter manually.
	Motor blocked or defective	
	Mechanical connection between motor and pipe nozzle sheared off	
	Worn thread	
	Microswitch defective or set incorrectly	
	Line interrupted between microswitch or motor and control unit	
<b>Er 2</b>	Control unit receives too many pulses from the microswitch	Contact the qualified specialist or Grünbeck's technical service.  If water leaks from the drain opening, close the filter manually.
	Rubber gasket for backwash water outlet has fallen out	
	Mechanical connection in the filter sheared off	
	Microswitch defective or set incorrectly	
<b>Er 3</b>	Filter element can no longer be cleaned due to severe contamination of the raw water	Contact the qualified specialist or Grünbeck's technical service.  In case of severe contamination, we recommend installing a coarse dirt filter upstream.
	Work on the water supply network	



If a malfunction **Er 1**, **Er 2** or **Er 3** is acknowledged, the control unit closes the filter for a period of approximately 60 s to ensure that it is closed and then performs a backwash for checking purposes.

Troubleshooting	Explanation/Cause of error	Troubleshooting
<b>Er 4</b>	Maintenance interval has elapsed or permissible number of backwash processes per maintenance interval has been exceeded	Contact the qualified specialist or Grünbeck's technical service.
<b>Er 5</b>	Differential pressure sensor or its connection line defective	Contact the qualified specialist or Grünbeck's technical service. Have the sensor and its connection line replaced.
<b>Er 6</b>	Progressive wear and tear of thread	Contact the qualified specialist or Grünbeck's technical service. Have maintenance performed. There is a threat of damage as explained under Er 1 or Er 2.

## 9.2 Other malfunctions

Troubleshooting	Explanation/Cause of error	Troubleshooting
No indication, motor does not rotate any longer	System fuse blown	Replace the T2A fuse (micro-fuse, nominal value 2A, characteristic "slow-blow"). (For position of the fuse refer to chapter 4.4.5 – „Wiring diagram of control unit“)
Green lamp above terminal 20 lights up dimly or not at all	Wiring error (terminals 10...21)	Contact the qualified specialist or Grünbeck's technical service.
	Connected component defective (terminals 10...21)	
Motor does not rotate or is buzzing only	Wiring error (terminals 10...21 in the RS-tronic or connecting terminals at the motor's mounting plate)	Check the wiring according to the wiring diagram.
	Motor or control unit defective	Contact the qualified specialist or Grünbeck's technical service.
Differential pressure too high	The filter elements are dirty	Carry out a backwash.
	The shut-off valves are not completely open	Completely open the shut-off valves.
	Cannot be determined	Contact the qualified specialist or Grünbeck's technical service.
Despite several backwash processes, the differential pressure does not decrease	The filter elements are severely contaminated, clogged	Check the filter elements. Manually clean the filter elements with a brush. Replace the filter elements.

Troubleshooting	Explanation/Cause of error	Troubleshooting
Water leaks from the lower drain outlet, backwash filter cannot be closed by means of the control unit	A particle got stuck between the lower suction nozzle and the filter funnel Mechanical blockage in the backwash filter	Carry out several backwash processes. If water continues to escape, check the filter for foreign particles and for damage at the built-in parts.
	Gasket at the lower suction nozzle defective or worn	Check the gasket of the drain nozzle and replace the suction nozzle unit, if required.
Motor does not rotate or runs sluggish	Mechanical blockage in the backwash filter	Check the filter for foreign particles and for damage at the built-in parts.
	Thread of the suction nozzle worn	Check the thread of the suction nozzle for wear and tear and replace it, if required.
Leaks between upper suction nozzle below the motor and the housing	O-ring gasket of upper suction nozzle worn	Dismount the upper suction nozzle and replace the O-ring.
Little water discharge during backwash	Sieve bottom dirty, clogged	Clean the sieve bottom.

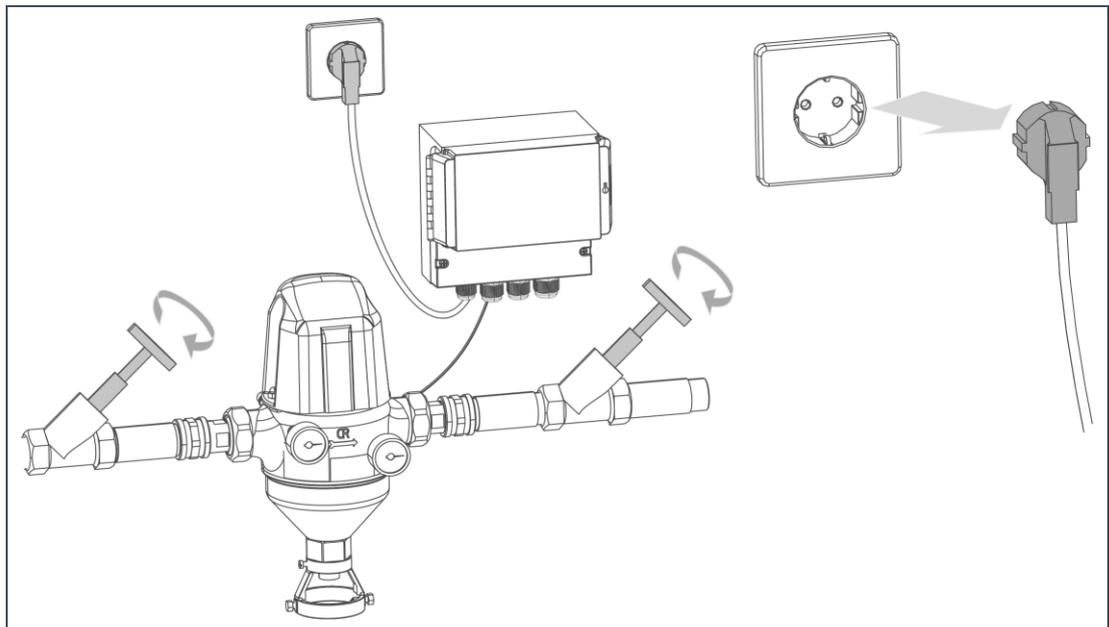
### 9.3 Manually closing the filter's suction nozzle

Due to malfunctions, it may be necessary to close the filter's suction nozzle manually to avoid unnecessary water leakage.

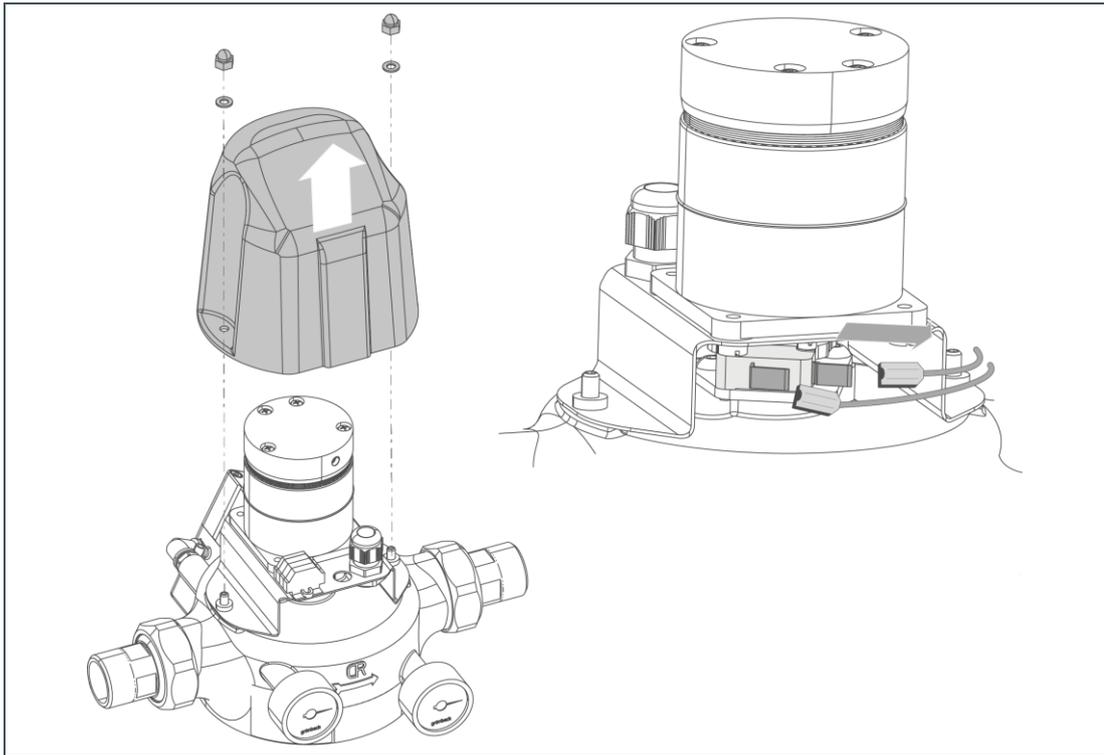
To do so, you will need the following:

- Open-ended wrench (SW11) or
- Flat-head screwdriver

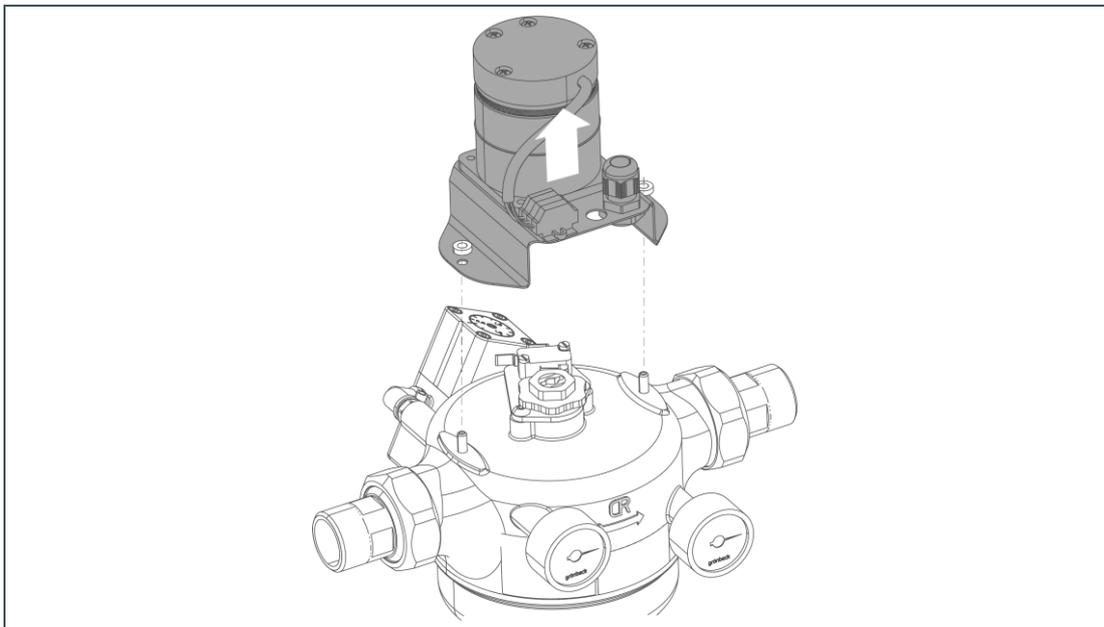
Proceed as follows:



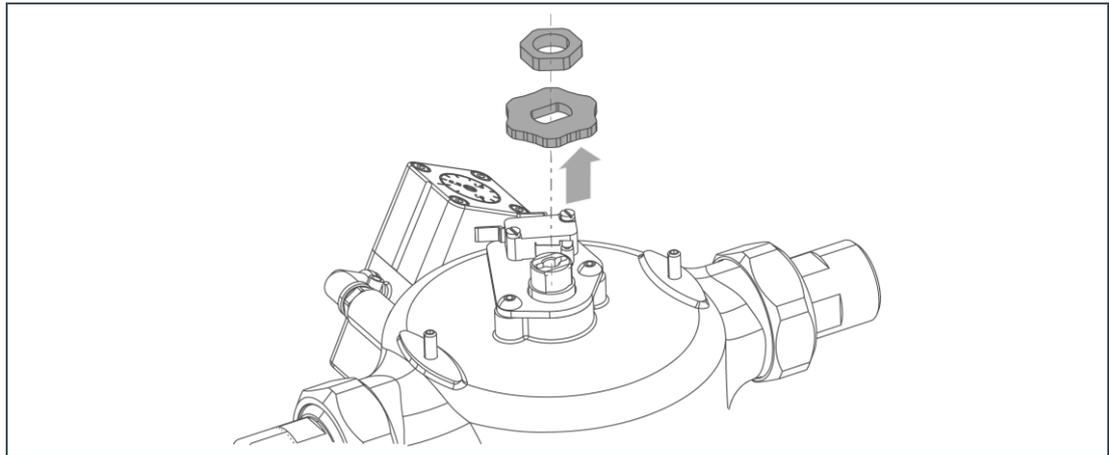
1. Disconnect the mains plug from the socket.
2. Close the shut-off valves.



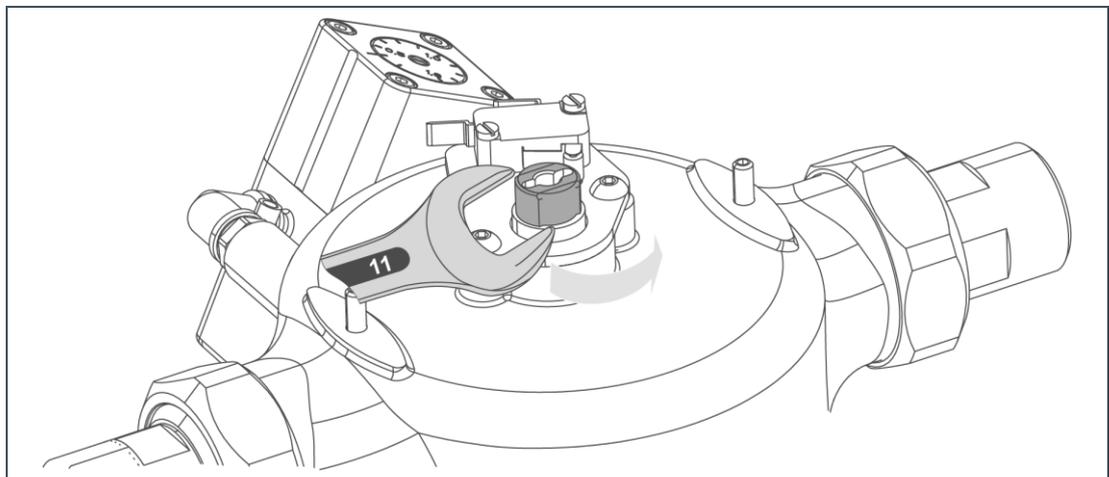
3. Loosen the nuts of the cover.
4. Lift the cover of the filter housing.
5. Disconnect the cables of the microswitch.
  - » You can now dismount the motor.



6. Lift the motor unit off the filter housing.



7. Loosen the nut.
8. Remove nut and cam disc.



9. Using an open-ended wrench or a screwdriver, turn the wrench flat of the pipe nozzle to the left until the mechanical stop is reached.
    - » The suction nozzle is closed manually.
  10. Slowly open the shut-off valves.
    - » The water no longer escapes.
- ▶ Mount the drive unit in reverse order.



**NOTE:** The filter's suction nozzle has been tightened too much.

- The lower suction nozzle got stuck.
- The drive unit does not provide the torque required to open the suction nozzle. There is a risk of damage when the unit is put back into operation.
  - ▶ After manual closing, start a manual backwash.
  - ▶ Check whether the drive unit properly opens the suction nozzle.
- » The water flows from the bottom of the backwash water connection.

## 10 Disposal

- ▶ Comply with the applicable national regulations.

### 10.1 Packaging

- ▶ Dispose of the packaging in an environmentally sound manner.
- ▶ Dispose of the filling material (foam) as non-recyclable waste.

### 10.2 Product



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

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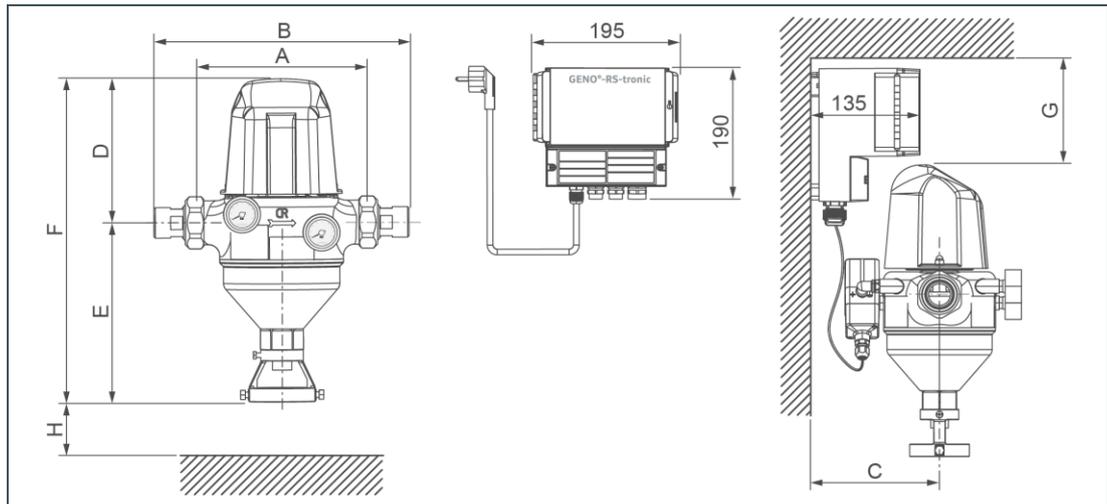
- ▶ Learn about the local regulations on the separate collection of electrical and electronic products.
- ▶ Make use of the collection points available to you for the disposal of your product.
- ▶ If your product contains batteries or rechargeable batteries, dispose of them separately from your product.



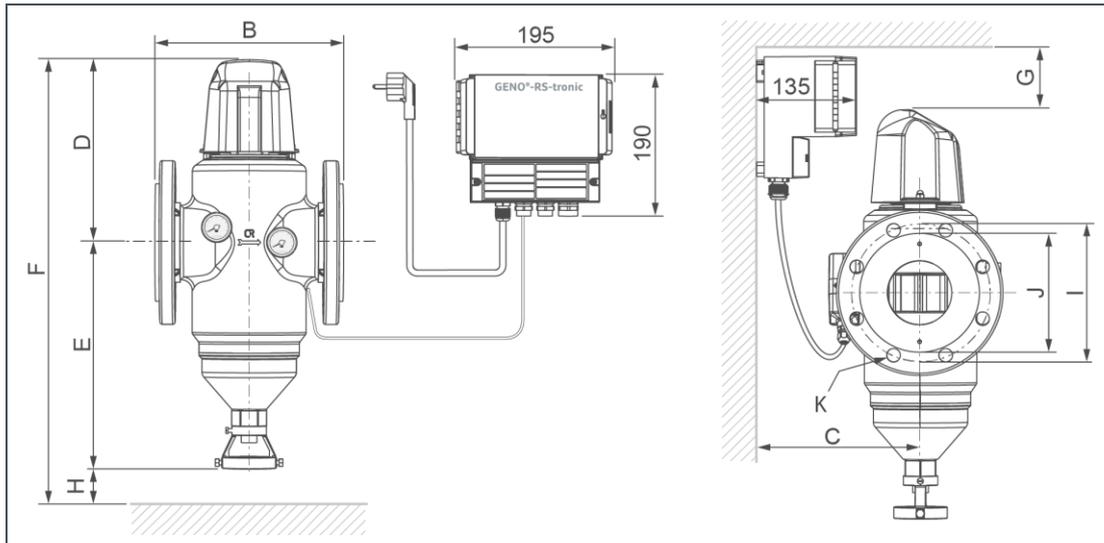
For more information on take-back and disposal, go to [www.gruenbeck.com](http://www.gruenbeck.com).

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# 11 Technical specifications



Dimensions and weights		GENO-backwash filter MXA with screw connections				
Nominal connection diameter		DN 25	DN 32	DN 40	DN 50	
Connection diameter		1"	1¼"	1½"	2"	
A	Installation length without screw connection	mm	190	190	206	206
B	Installation length with screw connection	mm	276	281	342	323
C	Distance to wall	mm		≥ 115		
D	Overall height above centre of connection	mm	153	153	233	233
E	Overall height up to centre of connection	mm	194	194	212	212
F	Total height	mm	347	347	445	445
G	Clearance above upper edge of filter	mm		130		
H	Clearance required for the replacement of the filter element	mm	100	100	min. 100 / optimum from 215	
	Length of cable for differential pressure sensor	mm		1500		
	Length of cable for drive unit	mm		1500		
	Length of mains cable	mm		1500		
	Empty weight with control unit GENO-RS-tronic, approx.	kg	8.6	8.7	12.7	12.7
Connection data						
	Rated voltage range	V	230			
	Rated frequency	Hz	50 - 60			
	Power input (standby)	W	19			
	Power input (operation = max)	W	26			
	Protection / protection class		IP54/Ⓢ			
Performance data						
	Flow rate at Δp 0.2 (0.5) bar	m³/h	8.5 (13)	12 (18.5)	22 (30)	27 (38.5)
	Kv value	m³/h	18	25	46	56
	Pore size	µm	100			
	Largest/smallest pore size	µm	110/90			
	Nominal pressure		PN 16			
	Minimum flow pressure	bar	2			
	Operating pressure at water temperature	bar/°C	≤ 10/90			
	Differential pressure release	bar	0.4 - 0.5			
General data						
	DVGW registration number		NW-9301BO0194			
	ÜA registration number The Office of the Vienna Provincial Government – City of Vienna		R-15.2.3-21-17496			
	Water temperature	°C	≤ 90			
	Ambient temperature	°C	5 - 40			
<b>Order no.</b>			<b>107 450</b>	<b>107 455</b>	<b>107 460</b>	<b>107 465</b>



**Dimensions and weights** **GENO-backwash filter MXA with flange connection**

Nominal connection diameter		DN 65	DN 80	DN 100	
B	Installation length without counter-flanges; flanges PN 16 acc. to DIN EN 1092-1	mm	220	250	250
C	Distance to wall	mm	≥ 115	≥ 125	≥ 125
D	Overall height above centre of connection	mm	233	243	243
E	Overall height up to centre of connection	mm	212	302	302
F	Total height	mm	445	545	545
G	Clearance above upper edge of filter	mm		130	
H	Clearance required for the replacement of the filter element	mm	min. 100 optimum from 215	min. 100 optimum from 315	
I	Bolt circle diameter of flange	mm	145	160	180
J	Sealing surface	mm	≤ 122	≤ 140	≤ 158
K	Number of M 16 screws	pcs	4	8	8
	Length of cable for differential pressure sensor	mm		1500	
	Length of cable for drive unit	mm		1500	
	Length of mains cable	mm		1500	
	Empty weight with control unit GENO-RS-tronic, approx.	kg	14.8	19	20

**Connection data**

Rated voltage range	V	230
Rated frequency	Hz	50 - 60
Power input (standby)	W	19
Power input (operation = max))	W	26
Protection/protection class		IP 54/Ⓢ

**Performance data**

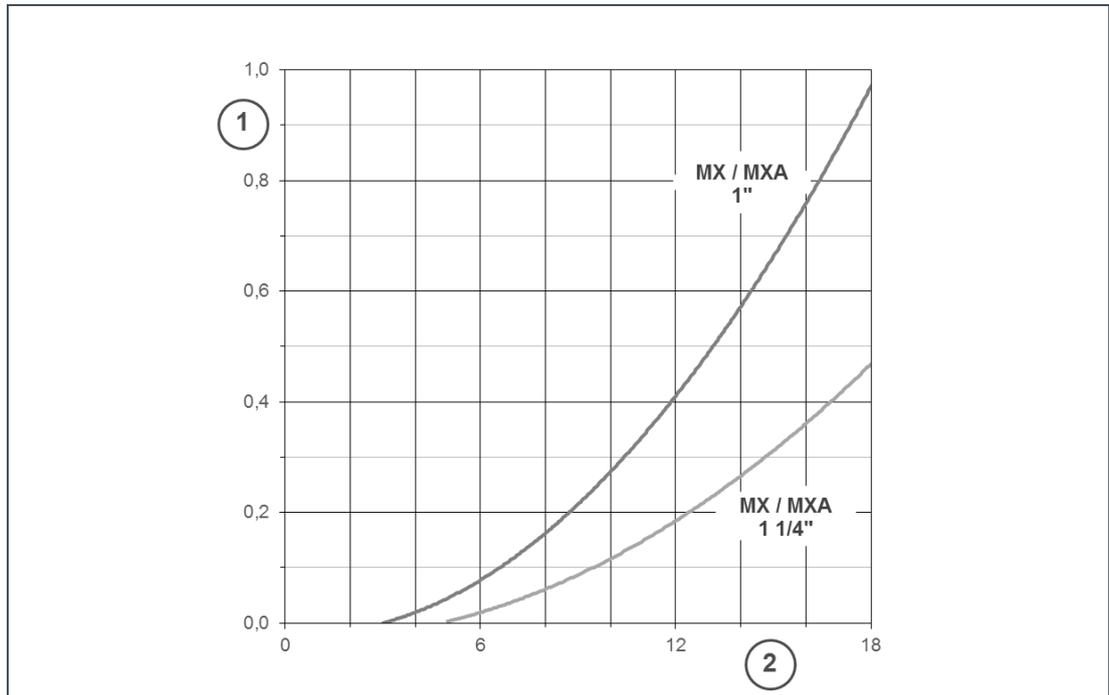
Flow rate at Δp 0.2 (0.5) bar	m <sup>3</sup> /h	30 (47)	60 (96.5)	60 (98)
K <sub>V</sub> value	m <sup>3</sup> /h	69	124	138
Pore size	μm		100	
Largest/smallest pore size	μm		110/90	
Nominal pressure			PN 16	
Minimum flow pressure	bar		2	
Operating pressure at water temperature	bar/°C		≤ 10/90	
Differential pressure release	bar		0.4 - 0.5	

**General data**

DVGW registration number		NW-9301BO0194
ÜA registration number		R-15.2.3-21-17496
The Office of the Vienna Provincial Government – City of Vienna		
Water temperature	°C	≤ 90
Ambient temperature	°C	5 - 40
<b>Order no.</b>		<b>107 470</b> <b>107 475</b> <b>107 480</b>

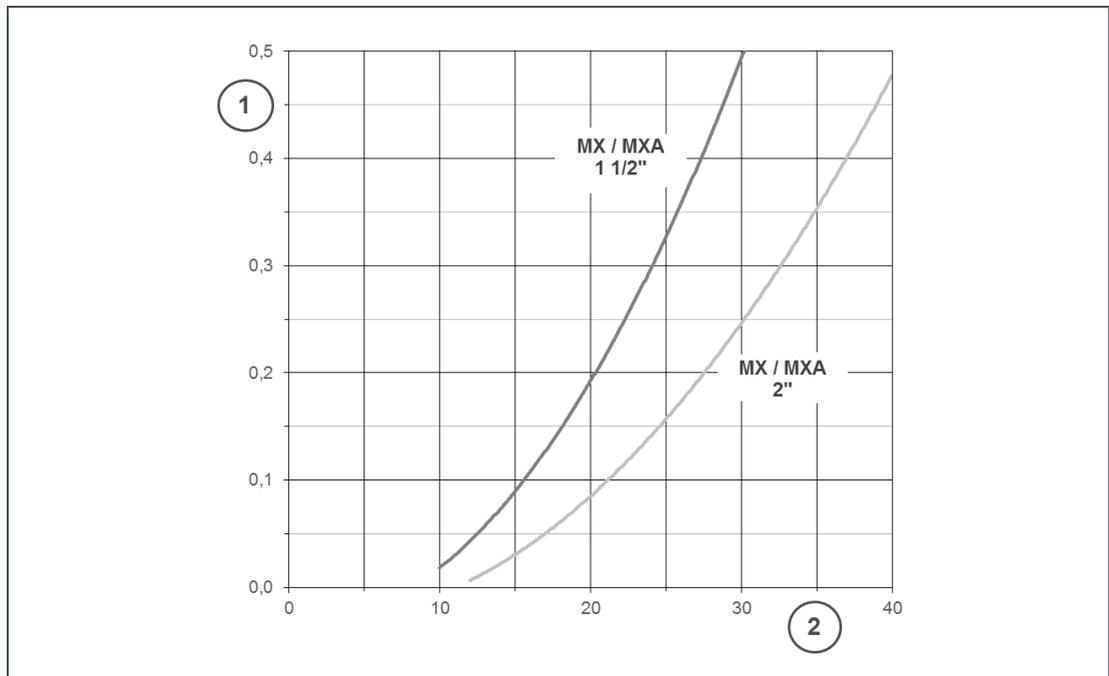
## 11.1 Pressure loss curves

Pressure loss curves of GENO-backwash filters MXA 1" and 1¼"



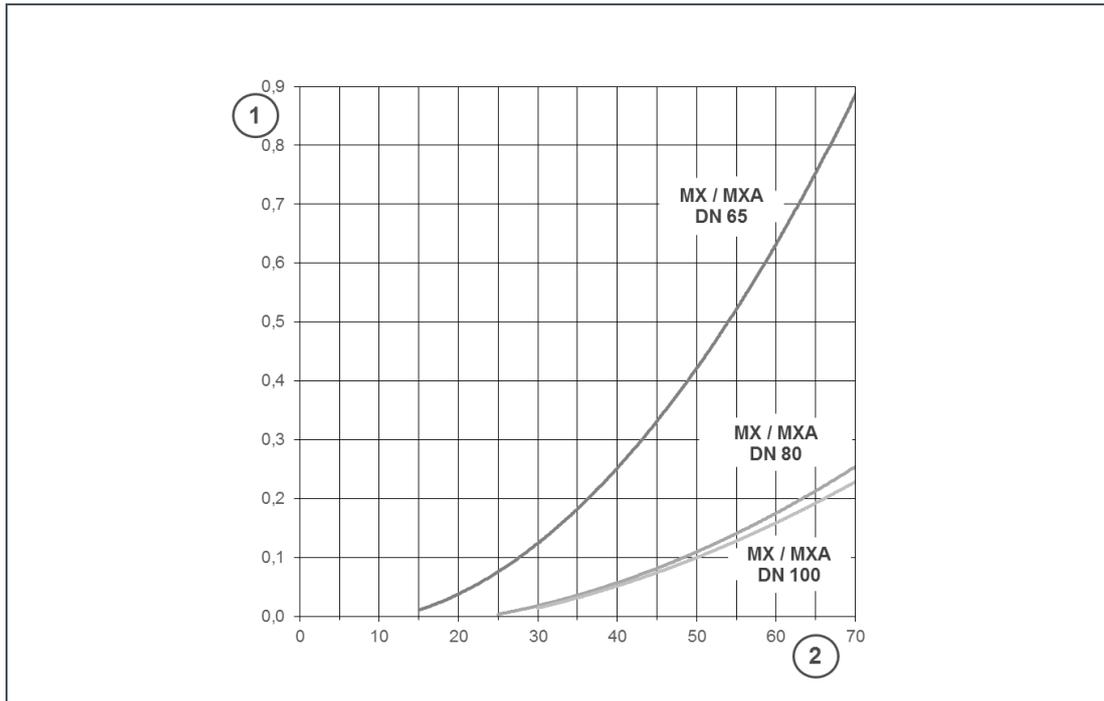
Item	Designation	Item	Designation
1	Pressure difference in bar	2	Flow rate in m³/h

Pressure loss curves of GENO backwash filters MXA 1½" and 2"



Item	Designation	Item	Designation
1	Pressure difference in bar	2	Flow rate in m³/h

**Pressure loss curves of GENO backwash filters MXA DN 65, DN 80 and DN 100**



Item	Designation	Item	Designation
1	Pressure difference in bar	2	Flow rate in m³/h

Consumption data			
Backwash water volume at a water pressure of 3 bar and a backwash time of 1.5 min, approx.	l		40
Max. backwash volume flow at 9 bar, approx.	m³/h		4
Max. admissible differential pressure	bar		0.4

# 12 Operation log

Filter | GENO-backwash filter MXA \_\_\_\_\_

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

## 12.1 Start-up log

### Customer

Name: \_\_\_\_\_

Address: \_\_\_\_\_

### Installation/Accessories

Drain connection acc. to DIN EN 1717:  yes  no

Floor drain available:  yes  no

Safety device:  yes  no

### Operating values

Water pressure at raw water inlet bar

Water pressure downstream of pressure reducer bar

Residential water meter reading m<sup>3</sup>

### Parameters

Backwash interval:  yes  no

Start interval-controlled backwash: hh:mm

Backwash lock:  yes  no

Off-periods: hh:mm

### Remarks

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Start-up

Company: \_\_\_\_\_

Service technician: \_\_\_\_\_

Work time certificate (no.): \_\_\_\_\_

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 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.

## **Filter GENO-backwash filter MXA 1"- MXA DN 100**

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

The afore-mentioned system also complies with the following directives and provisions:

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

Furthermore, we confirm compliance with the essential requirements:

- EMC (2014/30/EU)

The following harmonised standards have been applied:

- DIN EN 61000-6-2:2006-03
- DIN EN 61000-6-3:2011-09

The following national standards and regulations have been applied:

- DIN 19636-100:2008-02

Responsible for documentation:

Dipl.-Ing. (FH) Markus Poepperl

Manufacturer

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

Hoechstädt; Germany, 08.07.2019

A handwritten signature in black ink, appearing to read 'M. Poepperl', written in a cursive style.

Dipl. Ing. (FH) Markus Poepperl  
Head of Technical Product Design





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