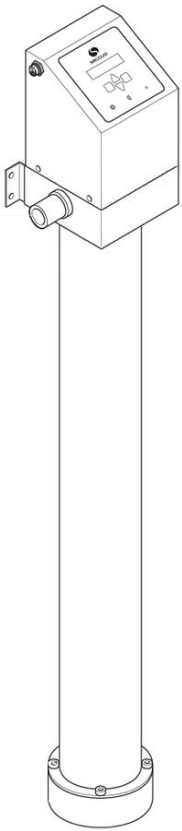
Installation and User Instructions

Seccua UrSpring



August 2022
Version 1.11

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1. Introduction

1.1 Intended use

The Seccua UrSpring is intended to be used exclusively for filtering well water or city water.

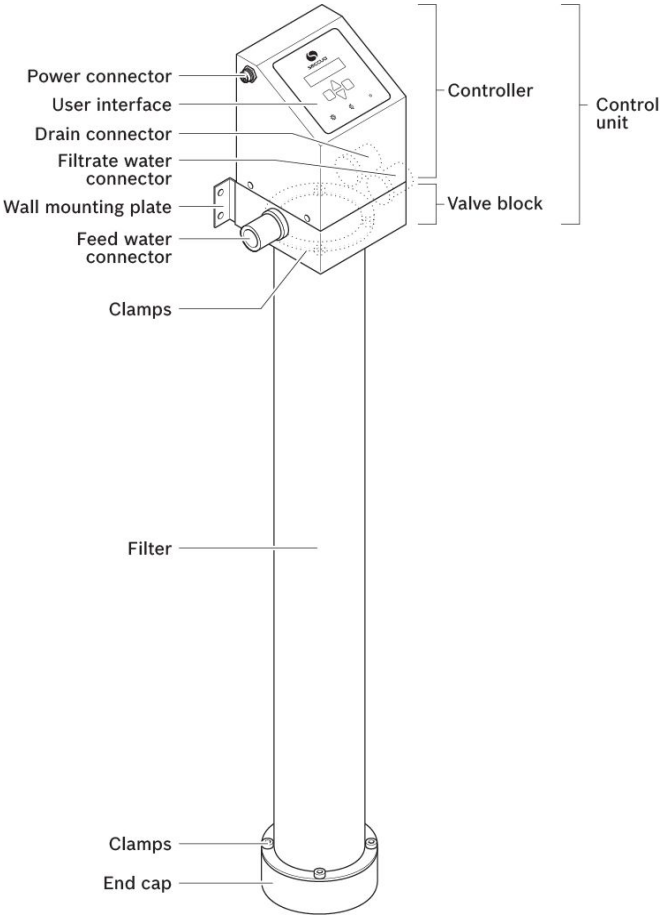
⚠WARNING

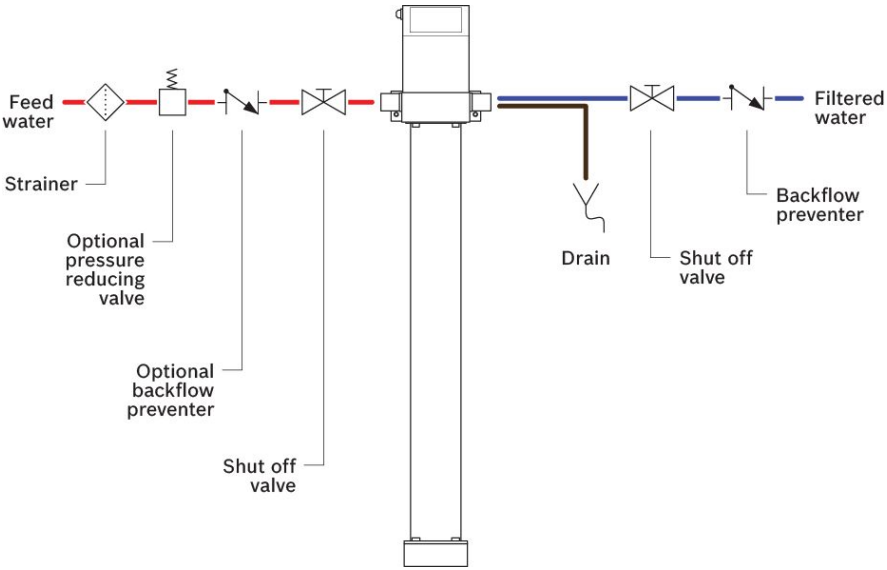
Use of the UrSpring for any other or additional purposes than filtering well water or city water is considered as in non-conformity with the intended use. Any use other than that described in these instructions is regarded as unintended use. Seccua will not accept any liability for damage and injury resulting from non-conforming use of the UrSpring.

1.2 Filtering principle

The Seccua Filtration removes turbidity and pathogens (viruses, bacteria like legionella, parasites and protozoans like amoebas, crypto and giardia) from water supplied from spring or well water. The UrSpring consists of a control unit and a replaceable filter. The Seccua filtration uses certified membranes with pore sizes down to 20 nanometers to filter the water. The filter is cost efficient and uses no chemicals or radiation.

1.3 Overview of the UrSpring





1.4 About this manual

This manual describes how to safely use, install and maintain the Seccua UrSpring.
Using the UrSpring is described first, because the end user will use the manual most often for this purpose.

Before using, installing or maintaining the UrSpring:

- Read, understand and know all the safety instructions in this manual.
- Follow all the safety precautions and instructions described in this manual. Failure to do so can result in serious injury or death.
- Keep this manual for future reference and pass them on to subsequent users of the product.

In addition to this manual, video's with installation and operation instructions can be found on
https://www.youtube.com/user/WaterWonderfulLife/featured

For further support and the latest version of the documentation please visit our website http://www.seccua.com.

1.5 Warranty

All Seccua GmbH products are subject to strict quality inspections. If, however, you have a complaint, please report it to Seccua GmbH, in accordance with the general warranty conditions. These can be found at https://www.seccua.com/warranty.

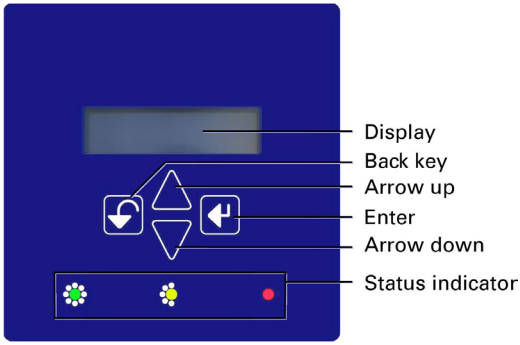
NOTICE By putting the UrSpring into operation, you automatically agree to the warranty conditions of Seccua GmbH. If you do not agree with the warranty conditions, do not operate the UrSpring and return it to your dealer.

For a claim of the manufacturing warranty, a prior warranty registration is required via https://www.seccua.com/registration

2. Using the UrSpring

2.1 User interface

The UrSpring user interface on the control unit is shown in the image below.



The Filter lifespan indicator shows the following:

	Left indicator is green (steady).	The UrSpring is filtering correctly.
	Left indicator blinks green.	Flushing is in progress.
	Middle indicator is yellow.	The filter is fouled. A filter change should be considered soon. The fouling LED can turn off again after a successful cleaning.
	The right indicator blinks red.	Alarms available (see Error codes). A filter change may be required.

2.2 Using the menu

To go to a menu item use the  and  buttons on the controller. Select the menu item with the  button.

2.3 Viewing controller measurements

2.3.1 Flow

This indicates the flow of water through the filter in l/min (gpm).

2.3.2 Pressure drop (p-drop)

This shows the current pressure difference between the feed water and filtered water in bar (psi).

NOTICE The maximum pressure difference may not exceed 2.5 bar (36.26 psi).
A filter should reduce the pressure as little as possible. Therefore a high pressure difference is an indication that the filter is fouled and should be flushed (see Flushing the filter module). If flushing does not reduce the pressure difference sufficiently, the filter should be changed (see Place a new filter).

2.3.3 Filter state

Shows the filter state as a percent compared to a new filter.

Display shows	Description
##########	100% of initial performance like a new filter.
#########	75% of initial performance or more than 9 month after filter installation.
######	50% of initial performance or more than 18 month after filter installation.
###	25% of initial performance or more than 27 month after filter installation.

NOTICE The filter state is calculated after the first cleaning cycle has been completed. Note that the filter needs to be exchanged at least every 3 years.

2.3.4 Filter life left

Shows the estimated percentage of the filter-life left, before the filter needs to be replaced.

2.3.5 Current pressure difference

NOTICE This function is not available with UrSpring Home devices.

This shows the current pressure difference between the feed water and filtered water.
To show the pressure difference:

1. Select the menu **Operating Data?** > **Filter State**.
2. Use  and  to display **Diff. Pressure** and select it with  .
   The display shows the pressure difference.

NOTICE The maximum pressure difference may not exceed 2.5 bar (36.26 psi).
A filter should reduce the pressure as little as possible. Therefore a high pressure difference is an indication that the filter is fouled (or the current water consumption exceeds the UrSpring capacity) and should be flushed (see Flushing the filter module). If flushing does not reduce the pressure difference sufficiently, the filter should be changed (see Place a new filter).

2.4 Configuring the controller

The controller can be configured in the settings menu.

To select a menu item use the  and  buttons on the controller. Select the menu item with the  button.

Recommended settings

Type of water	Recommended settings
City water	• Set automatic daily cleaning. See Daily flush. • Set the flush length to 5 sec. See 2.4.7 Set the flush length. • Select to delay flushing during water usage. See 2.4.8 Select to stop flush during water use.
Well water or City Water, which might show brown water from time to time.	• Set automatic daily cleaning. See Daily flush. • Select automatic flushing when the filter is fouled. See Automatic flush when fouled. • Set the flush length to 10 sec. See 2.4.7 Set the flush length. • Select to delay flushing during water usage. See 2.4.8 Select to stop flush during water use.

Hot water	• Set automatic daily cleaning. See Daily flush. • Select automatic flushing when the filter is fouled. See Automatic flush when fouled. • Set the flush length to 5 sec. See 2.4.7 Set the flush length.

2.4.1 Enter the serial key (SK)

NOTICE The SK code is different for each type of filter. Always make sure to enter the right SK code of the individual filter in the control unit.
To enter the SK:

1. Find the sticker on the filter or filter packaging box.

2. Select the menu **Change settings?** > **Serial key**.
   The display shows: **SN:0------**
3. Use ▲ and ▼ to change the numbers and confirm each number with ↵.
   Repeat this until the complete serial key is entered.

2.4.2 Select the the English language for the controller menu

1. Select the menu **Change settings?** > **Language (**or **Sprache).**
2. Use ▲ and ▼ to select the **English** language and confirm with ↵.

2.4.3 Select metric or US units

1. Select the menu **Change settings?** > **Units**.
2. Use ▲ and ▼ to select **Metric** or **US units** and confirm with ↵.

2.4.4 Select the time format

1. Select the menu **Change settings?** > **Time format**.
2. Use  and  to select **am/pm** or **24h** time format and confirm with  .

2.4.5 Set the correct time

NOTICE Setting the time is important to make sure the flushing (Flushing the filter module) happens at the prefered time.

1. Select the menu **Change settings?** > **Set Time**.
   The display shows: **Set hour**.
2. Use  and  to select the correct current hour and confirm with  .
   The display shows **Set min**.
3. Use  and  to select the correct current minutes and confirm with  .

2.4.6 Set the water temperature

The water temperature setting is not available in the UrSpring Home..
NOTICE The water temperature influences the lifetime of the filter. The controller uses this setting to predict a precise lifetime.

1. Select the menu **Change Settings?** > **Water Temp**.
2. Use  and  to set the correct temperature and confirm with.

2.4.7 Set the flush length

The recommended flush lengths are:

- For city water 5 seconds (maximum 10 seconds)
- For well water 10 seconds (maximum 20 seconds)
- For hot water 5 seconds (maximum 10 seconds)

Note that if the cleaning has to be improved, it is not useful to increase the flush length to longer than the maximum mentioned above. In that case it is better to flush more than once a day (see Automatic flush when fouled).

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The prefered length can be entered as follows:

1. Select the menu > “**Chg. Flush mode?**” > “**Flush length**”.
2. The display shows: **x Seconds**.
3. Use  and  to set the prefered duration and confirm with  .

2.4.8 Select to delay flush during water use

If you want that an upcoming flush cycle is delayed when there is water usage, you can select this funcion.
CAUTION! Only activate this option when the filtered water is directly connected to the piping device of a home. When there is always flow, this function could then suppress flushing permanently. Therefore, do ***not activate*** this function when:

- the filtered water outlet is connected to a storage tank.
- the UrSpring is used in a hot water circulation device.

To stop flush during water use:

1. Go to menu **Chg. Flush mode?** > **Flush when Flow**.
2. The display shows: **Set:**
3. Use  and  to set option to **Set: NO** and confirm with  .

2.4.9 Flushing the filter module

The filter module gets fouled during use. Flushing will clean the filter.
NOTICE : To set the flush duration see Set the flush length.

Daily flush

Daily cleaning can be selected as a standalone option or additional to automatic cleaning when the filter is fouled:

- For city water and hot water it is recommended to select daily flush as a standalone option.
- For well water it is recommended to combine daily flush with automatic flush when fouled.

To select a daily flush:

1. Select the menu **Chg. Flush mode?** > **Flush daily at**.
   The display shows: **Set hour**.
   The recommended time of day when flush is done is 00:30 (because in the night typically no water usage is expected).
2. Use  and  to select the correct current hour and confirm with  .
   The display shows **Set min.**
3. Use  and  to select the correct current minutes and confirm with  .
4. Go to menu **Chg. Flush mode?** > **Daily = OFF** or **Daily = ON**.
   If the display shows **Daily = ON**, the controller is ready to flush daily.
5. If the display shows **Daily = OFF**, push  .
6. Use  or  to select **Daily: ON** and confirm with `  .

Automatic flush when fouled

NOTICE The UrSpring device can be set to perform an automatic cleaning of the filter, depending on its fouling. The UrSpring monitors the state of fouling of the filter using the pressure difference between feed water and filtered water, the flow during filtration and the temperature of the filtered water.
The automatic cleaning mode is generally recommended. It definitely should be used whenever the water contains particles from time to time, which can also occur in city water applications.

1. Select the menu **Chg. Flush mode?** > **Flush if fouled**.
2. The display shows the threshold: **when Flow < .. %**.
3. Use  and  to change the threshold percentage and confirm with  .
   When the threshold is reached the UrSpring will start a cleaning cycle.
   It is recommended to not allow the filter flow to below 60% of factory-new performance.
   The display shows **Set hours.**

   Continue to enter the minimum time that the UrSpring will continue normal operation between two automatic flushes.
1. Use  and  to select the minimum hours between flushes and confirm with  .
   The display shows **Set min.**
2. Use  and  to select the minutes and confirm with  .

Note that when the cleaning of the filter needs to be improved, select settings to flush more often: select flow <70% or 80% and a minimum time between flushes of 00:20.

Manual flush

1. Select the menu **Manual flush?** > **Start flushing**.
2. Push  to start flushing the filter module.

2.5 Reset the UrSpring to factory settings

NOTICE All personalised settings will be deleted if you reset to factory settings.

1. Select the menu **Change Settings?** > **Set to Default?**.
2. Use  or  to select **YES** and confirm with  .

2.6 Change a filter module

The filter module must be exchanged from time to time, when the filter module gets fouled or the lifespan of the filter is over. We recommend that the filter module is removed and replaced by an authorized service partner every two to three years.

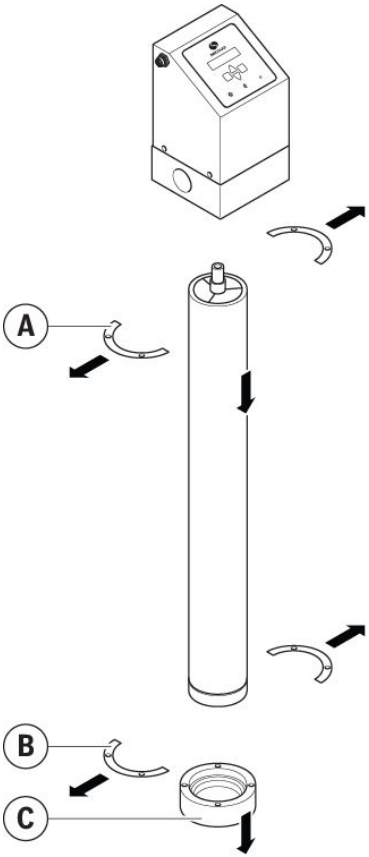
2.6.1 Preparation

NOTICE Make sure spilled water can not cause any damage.

1. Close the water in feed and filtered water lines.
2. Depressurize the UrSpring with a manual flush (see Flushing the filter module).
3. Disconnect the power by removing the plug from the mains socket.

2.6.2 Remove filter module

1. Place a bucket or other water container under the filter module.
2. Remove the **bottom clamps** Ⓑ from the filter module.
3. Pull the **end cap** Ⓒ from the filter module. Be careful not to damage the end cap.
4. Let the water flow out of the filter module.
5. Remove the **top clamps** Ⓐ from the filter module.
6. Pull the filter module out of the control unit.



Note that a used filter module must be disposed of as described in Storage, handling and disposal.

2.6.3 Place a new filter module

To place a new filter module:

1. Prepare the new O-rings and filter module: see STEP 4 Prepare the O-rings and filter module
2. Place a new filter module: see STEP 5 Place the filter module
3. Enter the serial key of the new filter module in the control unit. (see Enter the serial key (SK)).

3. Installing the UrSpring

⚠CAUTION

We recommend that the UrSpring is installed and commissioned by a qualified installer.

3.1 Before you start

3.1.1 Safety for installation

⚠WARNING

- Always follow the instructions and safety precautions in this manual. Failure to follow the instructions can result in serious injury or death.
- Do not change the power connecting plug or the power supply cable.
- Make sure the power supply cable is never in water.
- Unplug the UrSpring before installation or maintenance.
- Do not modify or open the product.

3.1.2 Check the requirements

Before you install the UrSpring make sure that:

- The UrSpring capacity is typical for a 4-6 people household.
- The water feed pressure is at least 2.5 bar (36 psi).
- The water pressure in the piping is less than 5 bar (72 psi). If the water pressure in the feed line can exceed 5 bar, a pressure reducing valve must be installed.

⚠CAUTION

- When using the John Guest quick couplings in combination with stainless steel pipes, the pipes must have a groove (see separate John Quest datasheet).
- Avoid water hammer or pressure shocks by e.g. external valves or pumps in the feed or filtered water line. This could damage the Urspring. If necessary, install a bladder tank between the UrSpring, which can cause the water hammer and the UrSpring.
- Abrasive particles in the feed water, such as metal or plastic debris, gravel or similar can damage the UrSpring filter. Therefore, a strainer with a maximum mesh size of 300µm needs to be placed upstream, to protect the filter of the UrSpring.

3.1.3 Additional components to be included in the water lines

In the feed water line:

- To protect the filter against abrasive particles, which may occur in your feed-water, such as metal- or plastic-debris or gravel, a strainer with a maximum mesh size of 300µm needs to be installed. For well water applications, a flushable prefilter between 100 to 300 µm is highly recommended.
- A pressure reducing valve must be installed if the pressure may reach values higher than 5 bar (72 psi). Caution, pressure of the public supply network can increase during the night!
- A shut off valve needs to be located upstream the UrSpring for installation and exchange of filter cartridges.
- If connected to a public water supply, a backflow preventer needs to be installed to prevent suction of water from your piping network into the community main water lines, in case of unexpected drop of pressure in the water mains.

In the filtered water line:

- A backflow preventer must be installed.
- A shut off valve needs to be located downstream the UrSpring for installation and exchange of filter cartridges.
- If there is no outlet in the filtrate line close by, to dispose the rinse water of the filter, an outlet should be installed.

3.1.4 Requirements for installation

Tools and materials

The following tools and materials (not included) are required for installing the UrSpring:

- Drill, screws, wall plugs, four mounting screws
- Screwdrivers
- Saw or pipe-cutter (depending on your piping-device)
- Pipe wrench
- Measuring tape
- Bucket

⚠WARNING

- Do not use organic or fatty sealants (greases) at the water connections. Greases can migrate into the water and damage the membrane with a layer of grease.

- Do not use hemp and grease at the water connections to prevent germ growth.
- Do not use flexible hoses made from rubber. Rubber hoses offer ideal growing conditions for bacteria.
- **Do NOT use fittings with tapered threads** (standard US NPT) to screw into the UrSpring.

Requirements for mounting the UrSpring:

- Make sure you have a space of 1 x 1.5 meter (wxh) (3.5ft x 5 ft) available for mounting the UrSpring.
- Make sure that the wall intended for mounting is suitable to carry the weight of the UrSpring when filled with water (see Specifications).
- Make sure there is sufficient space on the front side of the UrSpring to allow easy operation of the control unit and allow service and maintenance.
- Make sure that there is 20 cm (8") of space available below the UrSpring to allow filter replacement.

Requirements for electrical power:

- The power socket must be grounded.
- Distance between socket and the UrSpring must be less than 1.5 m.
- The power supply cable and socket must correspond to the requirements of the UrSpring (see Specifications).
- Make sure that all electrical connections are compliant with local ordinance and directives.
- Do not use extension cables.

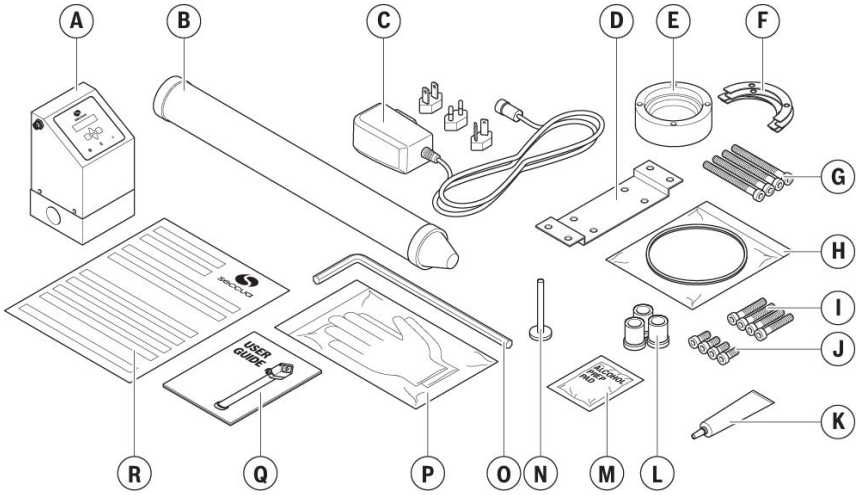
Requirements for water pipes:

- When using the John Guest quick couplings, all water pipes must have an outer diameter of 22 mm.
- Water pipes are made of copper, stainless steel or plastic.
  When using the John Guest quick couplings in combination with stainless steel pipes, the pipes must have a groove (see separate John Quest datasheet).
- Make sure a drain is available. Drain capacity larger than 30 liter/minute (8 gpm).
- Make sure that an outlet such as a sink or drain is available in the filtered water line. This is required to flush the UrSpring during commissioning.

3.2 Installation steps

STEP 1 Check the contents of the package

Please check the contents of the package immediately upon receipt for completeness and possible shipping damage. If the UrSpring or parts of the UrSpring have been damaged during transport, notify the transport company immediately. Transport damage to the UrSpring is not covered by warranty.



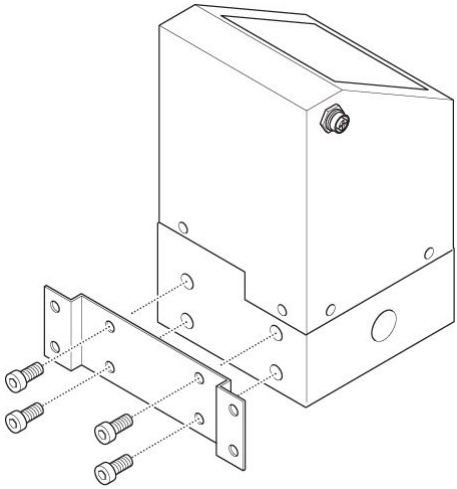
A. Control unit
B. Filter
C. Power connection with plug attachments
D. Wall mounting plate
E. Filter end cap
F. 4x stainless-steel mounting clamps
G. 4x long bolts (M8x100)
H. 2x O-rings
I. 4x bolts for the wall mounting plate (M8x16)
J. 4x short bolts (M8x50)
K. Food-grade sealant.
L. 3x John Guest quick connect couplings (3/4" thread BSPP or G3/4")
M. Alcohol pad
N. Plastic spacer pin
O. Allen key
P. Sterile gloves

Q. UrSpring quick guide
R. Inspection certificate

STEP 2 Mount the UrSpring

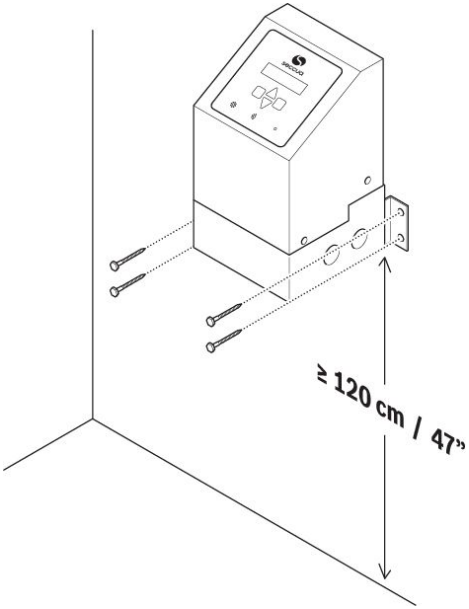
The UrSpring must be mounted to a firm wall as follows:

1. Attach the wall mounting plate to the control unit, using the supplied screws (M8x16).



2. Attach the control unit with the wall mounting plate to the wall. Use screws and plugs depending on your type of wall.

   Make sure the bottom of the control unit is at least 120 cm (47”) above the floor.



STEP 3 Connect the water couplings

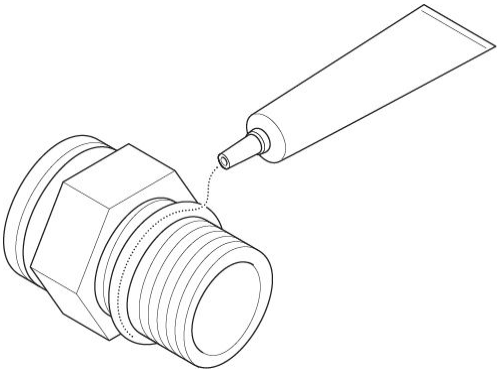
Your UrSpring package contains three John Guest quick connect couplings. These will be used in this instruction. If you decide to use other, custom couplings, only use couplings with a 22 mm (3/4") metric, non-tapered (parallel) external thread. See Using custom couplings for the requirements for custom couplings.

⚠CAUTION

Remove all impurities, metal and plastic residues or oil from the connecting pipe lines. These could damage the membrane and reduce the filtered water quality.

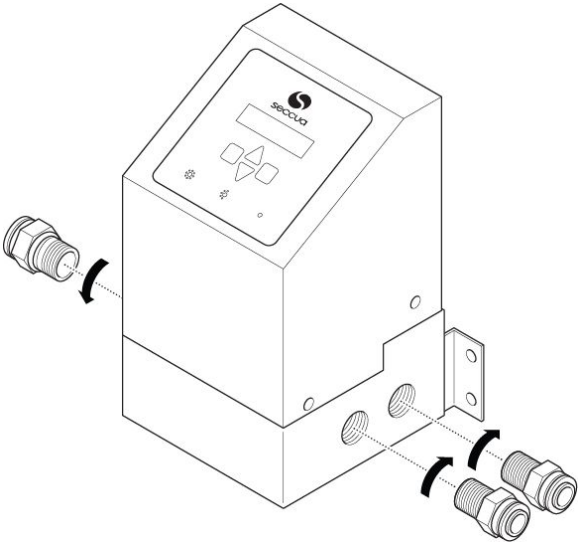
To connect the water couplings:

1. Put food-grade sealant on the O-rings of the quick connect couplings.



2. Manually insert and turn the quick connect couplings into the control unit for the feed, filtered and drain water (hand tightened them, so the O-rings seal).

   NOTICE The couplings seal to the control unit with O-rings. The thread does not have to be sealed additionally.



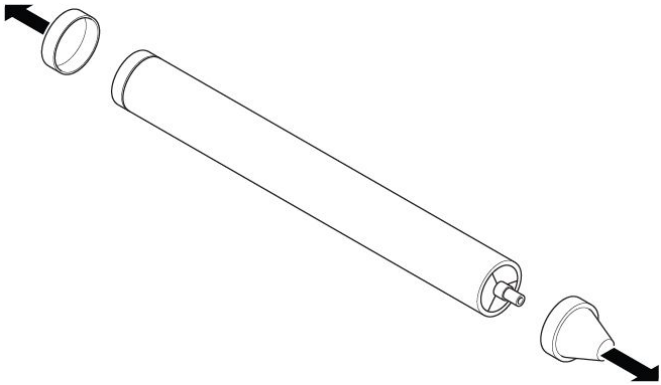
3. Prepare the connecting water pipes (diameter of 22 mm):
   a. Chamfer the pipe ends that are inserted into the couplings.
   b. Put food-grade sealant on the pipe ends.
      NOTICE Never use organic grease.

4. Flush the piping in order to remove any metal or plastic turning and oil residue.
5. Push the pipes into the couplings until the noticeable resistance of the O-rings is overcome.

   For more information on coupling and decoupling John Guest quick connect couplings to the water pipes, please refer to Using John Guests quick connect couplings and the John Guest's website.

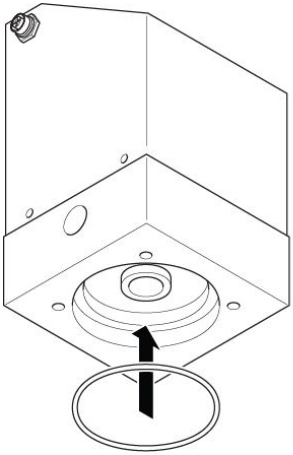
STEP 4 Prepare the O-rings and filter module

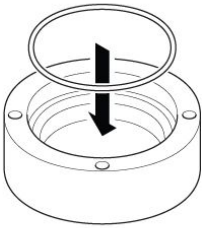
1. Remove the tape and protection caps from the top and bottom of the filter module.



2. Put on the sterile gloves.
3. Clean and disinfect the pipe tips that extend from the filter module using the alcohol pad.
4. Apply the supplied food-grade sealant on the outer size of both pipe tips that extend from the filter.
   Use your fingers (with sterile gloves on) to spread the grease evenly over both pipe tips.
   Make sure that you do not touch the pipe tips after this step, to avoid contamination.
5. Apply the supplied food-grade grease to both O-rings.
6. Fit one of the O-rings in the end cap.

7. Fit the second O-ring at the bottom of the control unit into the valve block.

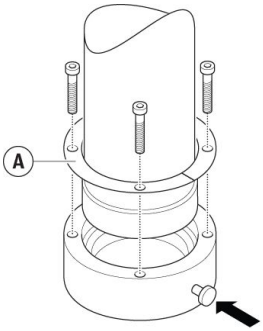




You can now take off the gloves.

STEP 5 Place the filter module

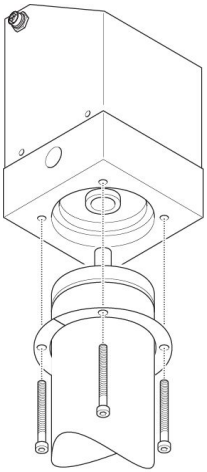
1. Place the end cap on a flat surface and put the bottom of the filter in it.
2. Place the mounting clamps into the lower groove of the filter module.
3. Attach the clamps evenly using the four bolts (M8x50) until they touch the surface. (hand-tight, do not used pliers or additional tools other than the Allen key supplied).
4. Fully insert the spacer pin in the end cap.



5. Carefully insert the filter module with the pipe tips vertically in the control unit. Make sure that the spacer pin in the end cap is positioned to the wall, to keep the filter module at the required distance.

6. Attach the filter module to the control unit using the stainless steel clamps in the upper groove of the filter module.

7. Fasten the clamps evenly using the four bolts (M8x100), until they touch the surface. (hand-tight, do not used pliers or additional tools other than the Allen key supplied).



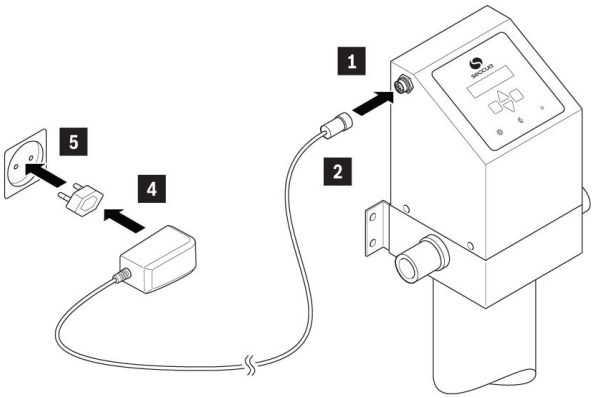
STEP 6 Connect the power

⚠WARNING

- Do not connect if the plug or cable is damaged!
- Do not expose any electrical component to water!

1. Connect the connector (M12) of the power cable to the connector on the left side of the control unit.
2. Turn the metal ring to fasten the power cable to the control unit.
3. Select the applicable adapter that fits your local socket. (see Electrical connection).
4. Place the adapter on the power plug.

5. Connect the power plug into the mains socket.



The welcome screen is shown on the user interface.

Hereafter, the controller prompts for two settings: the serial key (SK) of the filter module and the controller language. See Enter the serial key (SK) and Select the the English language for the controller menu on how to enter these settings.

STEP 7 Rinse the filter membrane

The new filter module is preserved with a food preservative solution (sodium bisulfite) at the factory. This must be rinsed out before using the UrSpring.
To rinse the filter membrane:

1. Make sure that the filtered water line has an outlet (sink or drain) to dispose of the rinse water.
2. Open the tap or valve of the filtered water line.
3. Carefully open the shut off valve of the feed water line to avoid water hammer and fill the UrSpring with water, replacing the contained air.
4. As soon as water starts flowing from the tap point; open the feed water shut off valve completely and flush the UrSpring rinse 3 to 5 minutes through one fully opened tap downstream, until water tastes fresh.
5. Close the tap.

Your UrSpring is now ready to use!

4. Maintenance

⚠WARNING

Only qualified technicians are allowed to perform maintenance on the UrSpring.

NOTICE

Non-expert and insufficient maintenance will forfeit any warranty rights.

4.1 Maintenance schedule

Part no.	Description	Qty	Service interval	Task	Task description
10963	Pressure relief automatics	1	36 month	Calibrate Sensors	Re-calibrate sensors through the user interface.
11351	Flow sensor	1	36 month	Function test	Open tap downstream and check the flow displayed on your unit. If those matches, test is completed.
10787	Flush-Valve	1	36 month	Function test	Check function by performing a manual flush through the control of the UrSpring.
10646	Quick-Connect-Adapter	3	36 month	Check for leaks	
10788	Only UrSpring HotWater Filter	1	12 month	Replace	
10545	all other UrSpring Filters	1	36 month	Replace	

4.2 Maintenance instructions

4.2.1 Calibrating the pressure sensors

Calibration of the pressure sensors may be required from time to time or when the UrSpring shows a sensor error (error code 109). Calibration adjusts the zero point of the pressure sensors to atmospheric pressure. During the calibration process, there may not be any pressure, flow or vibrations. The control unit adjusts the pressure sensors using the atmospheric pressure.
To perform a calibration:

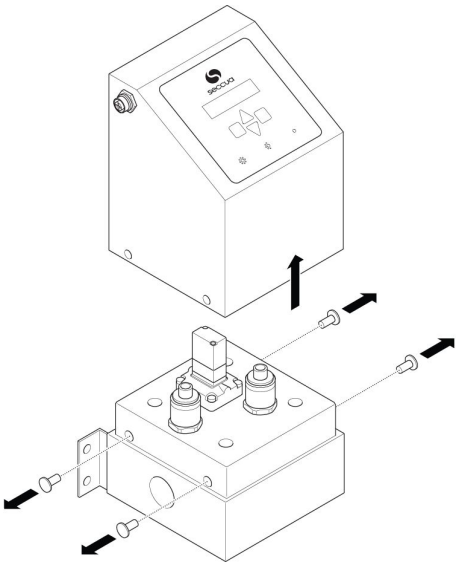
1. Close the feed water valve.
2. Close the filtered water line downstream.
3. Flush the UrSpring manually as described in Flushing the filter module.
   The UrSpring is now at atmospheric pressure.
4. Go to menu **Change Settings?** > **Calibrate Now?**.
   The display shows: **Disconnect Water**".
5. Push  to confirm the water is disconnected.
   The controller calibrates the sensors.
   When finished the display shows: **Adjustment or Sensors o.k.!**

NOTICE When controller display shows a sensor error, and you are sure that during the calibration there was no pressure, flow or vibration, then the pressure sensors must be exchanged (see 4.2.2 Exchanging the pressure sensors).

4.2.2 Removing the controller from the valve block

To maintain the sensors on the valve block you need to remove the controller from the valve block:

1. Close the water in feed and filtered water lines.
2. Depressurize the UrSpring with a manual flush (see Flushing the filter module).
3. Disconnect the power by removing the plug from the mains socket.
4. Remove the four screws on the sides of the controller.
5. Carefully lift the controller from the valve block.



4.2.3 Exchanging the pressure sensors

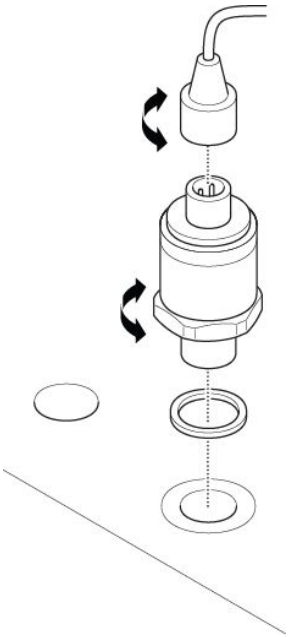
When pressure reading on the controller gives unexpected results, check the pressure sensors by calibrating them (see 4.2.1 Calibrating the pressure sensors).
When the controller display shows a sensor error, and you are sure that during the calibration there was no pressure, flow or vibration, then the pressure sensors (Art. no.11221) must be exchanged.

Before you start:

- Make sure you have threadlocker available that is suitable for drinking water (for example LOCTITE 243). Threadlocker is used to lock the pressure sensor to the valve block.
- You will need a 22 mm torque wrench (for 10 Nm).
- Make sure that the O-ring flat seal is present on the new pressure sensor (see figure).

To exchange a pressure sensor:

1. Remove the controller from the valve block as described in 4.2.2 Removing the controller from the valve block.
2. Remove the cable from the existing pressure sensor. If both pressure sensors are replaced, mark the cables to make sure that you connect them to the correct sensor after replacing.
3. Remove the pressure sensor using a 22 mm wrench.



4. Apply a tiny drop of threadlocker on the beginning of the thread of the new sensor.
5. Carefully insert the new pressure sensor into the valve block and turn it in by hand.
6. Tighten the sensor with the 22 mm torque wrench with 10 Nm.
7. Connect the cable to the pressure sensor.
8. Put the controller back on the valve block and attach its four screws.
9. Calibrate the new pressure sensor as described in 4.2.1 Calibrating the pressure sensors.

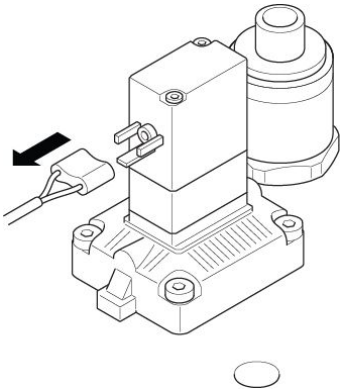
4.2.4 Exchanging the solenoid valve

⚠CAUTION

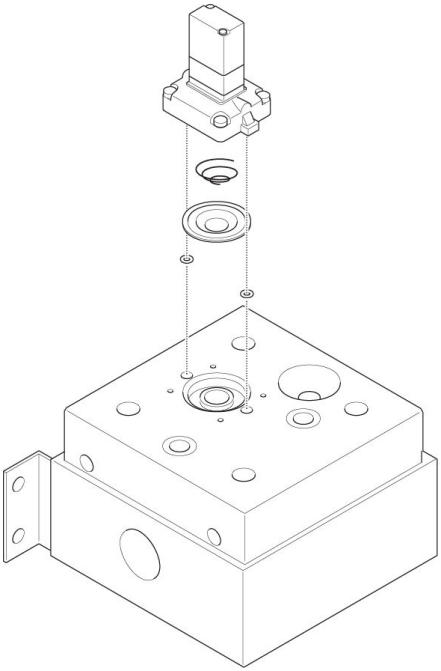
During installation of the solenoid valve (Art. no. 10787) pay attention to the correct position and orientation of all components.

Remove the solenoid valve:

1. Remove the controller from the valve block as described in 4.2.2 Removing the controller from the valve block.
2. Remove the cable from the valve.

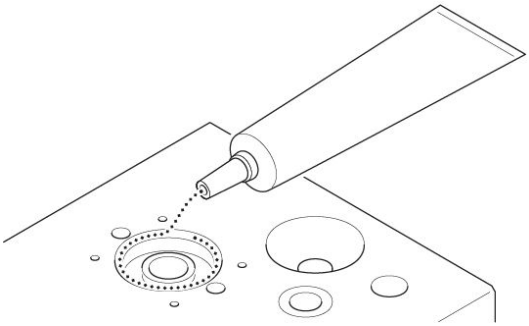


3. Remove the four bolts (M4x20) from the existing valve.
4. Take off the existing valve cover.
5. Remove the spring and membrane.
6. Remove the small O-rings.

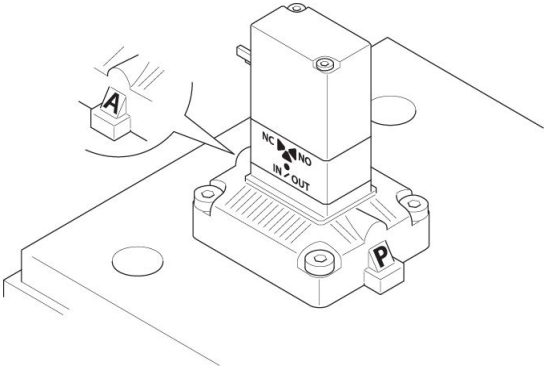


Place the new solenoid valve:

1. Clean the surface of the valve block and the grooves in the membrane recess.
2. Clean the bore holes where the small O-rings were positioned.
3. Apply a little food grade grease on the outer ring of the membrane recess.



4. Apply a little food grade grease on the new small O-rings.
5. Put both O-rings on the valve block on the small bore holes.
6. Put the new membrane in its recess on the valve block with the brass taper downwards and the membrane with bypass upwards.
7. Place the new spring in the middle of the membrane with the spring size increasing upwards.
8. Carefully position the valve cover on the membrane. Make sure that the spring stays upright.
   Position the valve cover such that:
   a. The **P** indication is positioned to the middle of the valve block and the **A** indication is facing outward to the side of the valve block.
   b. The **NC** symbol on the side of the valve cover must be at the **A** side of the valve cover (to the side of the valve block) and the **NO** symbol at the **P** side of the valve cover (to the middle of the valve block).
   c. The cable connectors are on the **A** side of the valve block.



9. Hand tighten the four bolts in steps in a crosswise sequence.
10. Attach the cable to the valve.
11. Put the controller back on the valve block and attach its four screws.
12. Perform a manual flush to verify the correct function (see Manual flush)..

4.2.5 Cleaning the solenoid valve

To clean the solenoid valve:

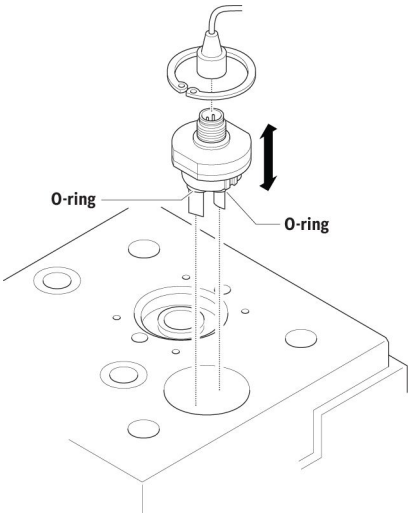
1. Remove the valve as described in 4.2.3 Exchanging the solenoid valve.
2. Clean the membrane using water and cloth or a soft brush.
3. Clean the O-rings.
4. Clean the recess of the membrane in the valve block.
5. Remove dirt from the boreholes of the O-rings.

6. Apply grease and put all parts back as described in 4.2.3 Exchanging the solenoid valve.

4.2.6 Exchanging the flow sensor

To exchange the flow sensor:

1. Remove the controller from the valve block as described in 4.2.2 Removing the controller from the valve block.
2. Remove the locking ring using needle-nose-pliers.
3. Pull out the existing flow sensor with the cable.
4. Disconnect the cable of the flow sensor.



5. Apply some food grade grease to the O-rings of the new flow sensor.
6. Connect the cable to the new flow sensor.
7. Insert the flow sensor into the valve block in the correct position.
8. Secure the sensor by attaching the locking ring (Art. no. 11354) onto the sensor using needle-nose-pliers.
9. Put the controller back on the valve block and attach its four screws.

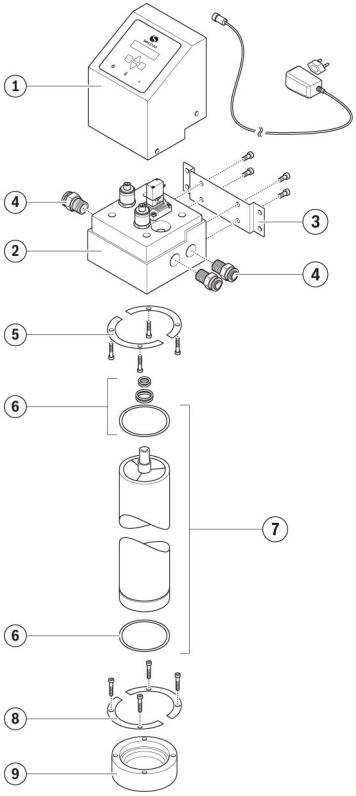
4.2.7 Cleaning the flow sensor

To clean the flow sensor:

1. Remove the flow sensor as described in 4.2.5 Exchanging the flow sensor.
2. Clean the O-rings and surfaces of the flow sensor with water, cloth or a soft brush.
3. Put back the sensor as described in 4.2.5 Exchanging the flow sensor.

4.3 Spare parts

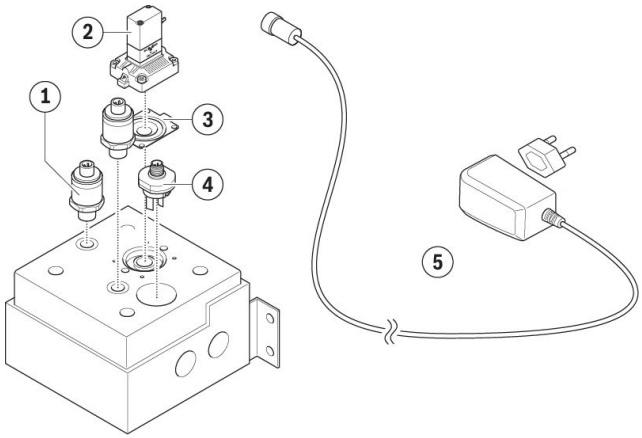
4.3.1 UrSpring spare part sets



No. in figure	Spare part sets description	Article no.
1	UrSpring Controller-Set (controller + power supply cable)	12287
2	UrSpring Valve-block full equipped (full equipped valve block, with pressure sensors, flow, sensor and solenoid valve)	12293
3	UrSpring Wall-mounting-Set (Wall mounting plate + 4 x M8x16)	12288

4	UrSpring John-Guest-Set (3 x John-Guest quick connect adapters)	12289
5	UrSpring Top-clamp-Set (2 x clamps + 4 x M8x100)	12290
6	UrSpring O-Ring-Set complete (2 x 16x3 + 2 x 25x3 + 2 x 98x4 + grease)	11301
7	SeccuMemPro 1000 (Filter for all UrSpring types) SeccuMemPro HotWater (Filter for hot water) (each filter set includes 2 x O-Rings 98x4)	10545 10788
8	UrSpring Bottom-clamp-Set (2 x clamps + 4 x M8x50)	12291
9	UrSpring End cap set (End cape,1x 98x4)	11049

4.3.2 Single spare parts



No. in figure	Single spare parts description	Article no.
1	UrSpring Pressure sensor 10 bar	11221
2	UrSpring Solenoid valve (Solenoid valve without body)	10787
3	UrSpring Wear parts solenoid valve (membrane + spring)	11293

4	UrSpring Flow sensor (flow sensor Karmann + locking ring (11354))	11351
5	UrSpring Power supply (cable + adapters)	10698

5. Troubleshooting

If your UrSpring unit reports an error, the red LED on the controller will blink.

5.1 Error codes

To view the error codes:

1. Go to menu **View alerts.**
2. The display shows **Last Error** ------ .
3. Use  and  to browse through the errors.

Error Code	Possible cause	Solution
101	The emergency flush is running or has run. A flush is activated for 20 seconds. Because the maximum transmembrane pressure (feed to filtrate) is exceeded (> 2.5 bar/36psi).	Seek and eliminate the cause of the high transmembrane or absolute pressure. It can damage the UrSpring • Check the feed pressure and upstream pressure reducing valve. • Check if the pressure conditions or the max. consumption has changed. • Check if the filter module is fouled and needs to be replaced.
102	Permeability of the filter module is too low.	• Perform a manual flush to verify that the flush is working. • Check if the flush settings fit the application and if they need optimization. • Check if the filter module is fouled and needs to be replaced. Contact your service technician for further help

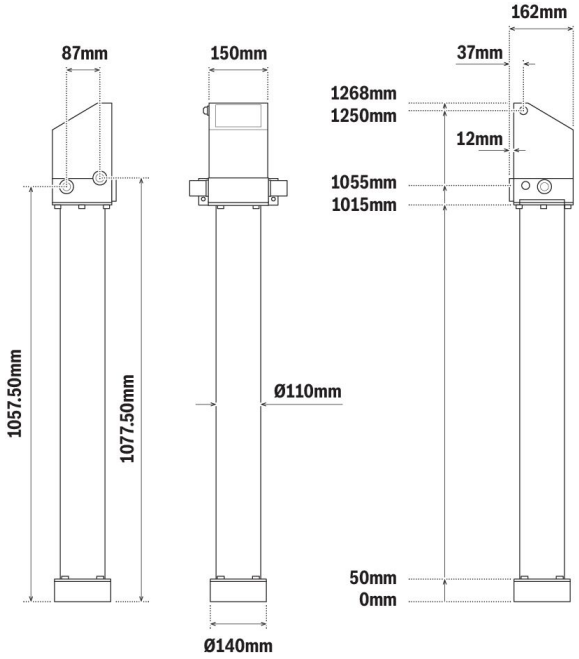
103	Filter module should be changed soon.	Prepare the replacement of the filter module.
104	The last flush cleaning did not raise the performance of the filter above the set threshold value for cleaning.	At the Flush if fouled setting (Automatic flush when fouled): 1. Set the threshold value to >60%. 2. Set the minimum time two automatic flushes to 20 minutes. The UrSpring should now incrementally regain its performance in the course of the next few days. If the performance is not increased after a few days, change the filter module and consider a more regular flushing (as described in the steps above).
105	Problem with power supply.	Check the power supply and socket.
106	Ambient temperature above 55°C (131°F).	Lower the ambient temperature.
107	Ambient temperature below 0°C (32°F).	Make sure the water does not freeze. The electronic control will work below 0°C.
109	Pressure sensors are not functioning correctly.	Calibrate pressure sensor (see 4.2.1 Calibrating the pressure sensors) If the error remains, replace the sensors (4.2.2 Exchanging the pressure sensors) or contact your service technician.
111 112 113	Time setting was lost or could not be saved.	Make sure the power supply works and reset the time (Set the correct time).
115	Memory error.	It might be that the power supply of the UrSpring was lost for a longer time, make sure the power supply and socket work correctly. Contact your service technician.

5.2 Support

For further support, please contact Support through our Service Desk. You find the required contact data under https://www.seccua.com/service.

6. Specifications

6.1 Dimensions



6.2 Operating data

	SI-units	US-units
Max. operating pressure	5.0 bar	72 psi
Operating temperature	4°C to 55°C	39°F to 131°F

Water temperature All UrSpring Types (with HotWater filter)	4°C to 40°C (4°C to 70°C)	39 °F to 104°F (39 °F to 158°F)
Storage temperature	0°C to 55°C	32°F to 131°F
pH-range	pH value of 2 to 11 (during operation)	
Chlorine tolerance	Tolerance for free chlorine: 200,000 ppmh, max. concentration 200 ppm	
Pressure difference feed – filtered water	0 – max. 2.5 bar	0 - max. 36 psi
Power supply	Input: 110-230 Volt AC Output: 12 Volt DC Power consumption: 1.5 W (~ 5.4 during flush)	
Total weight (controller unit with wet filter module)	approx. 15 kg	approx. 33 lbs

6.3 Electrical connection

The UrSpring is supplied with a power supply for different power plugs and voltages.The power supply complies with EU Directive 2014/35/EC on Low Voltage Equipment.

Country	Voltage	Power (max.)	Frequency	Plug type
Germany	230 V	225 W	50 Hz	C
USA, Canada	120 V	225 W	60 Hz	B
China	230 V	225 W	50 Hz	D

7. Using pipe couplings

7.1 Using custom couplings

If you use custom couplings to connect the water lines to the UrSpring, please note the following:

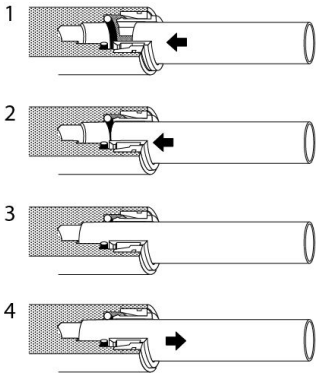
- The valve block of the control unit is made of plastic. Make sure that the internal thread of the valve block is not damaged during installation by the thread of the custom coupling used.
- Only use couplings with a 22 mm (3/4") BSPP, non-tapered (parallel) external thread for screwing into the block.
- Make sure the coupling is not deeper than the maximum thread depth reach of 15 mm (0.6”).
- Only use liquid teflon for sealing the pipe and fitting that is to be connected.
- Never use hemp (hemp will swell in contact with water which can lead to damage of the valve block) or organic grease.

7.2 Using John Guest quick connect couplings

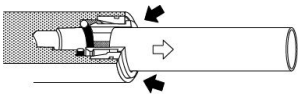
The UrSpring package contains John Guest quick connect couplings. Those couplings can be used on a 22 mm (3/4") pipe made of plastic, and copper. When using the John Guest quick couplings in combination with stainless steel pipes, the pipes need to have a groove. (see separate John Quest datasheet).

To insert a pipe in the quick connect coupling:

1. Insert the pipe in the quick coupling.
2. The coupling touches the internal O-rings seal.
3. Push the inserted pipe fully into the quick coupling.
4. Pull the pipe, in order to ensure a force-closed connection.



To disconnect a pipe from the quick connect coupling:



1. Fully release the pressure from the UrSpring.
2. Press in the sleeve of the coupling.
3. Pull the pipe from the coupling.

8. Storage, transport and disposal

8.1 Storage, e.g. Winterization

To place the UrSpring in a (temporary) storage:

- Disconnect the electricity and water supply.
- Remove water from the UrSpring. Water can become contaminated if it is not refreshed for a long time.
- Clean the external and internal surfaces of the UrSpring and accessories.
- Make sure the environment temperature does not drop below 0°C (32°F) or rise above 55°C (131°F).
- Make sure the relative humidity of the environment is below 80%.
- Make sure the UrSpring stays in an upright position.
- After removing the UrSpring from storage, check the UrSpring for damage.

Storing filter modules:

- Store filter modules in a cool and dry place.
- Do not expose filter modules to direct sunlight.
- Do not store filter modules for longer than 2 years after the production date.
- Do not remove the packaging before storage.
- Before storing an already used filter module, rinse it with a solution of pure water with 1% sodium bisulfite.
  If a used filter module is stored longer than 6 months, make sure to thoroughly clean and rinse the filter with clean drinking water before use.

Storing used filters:

- Before storing, rinse the filter module with a solution of pure water with 1% sodium bisulfite.
- Seal filter modules using the original Seccua protective end caps.
- Store filter modules vertically with the opening facing upwards.
- If a filter module is stored longer than 6 months, make sure to thoroughly clean and rinse the filter with clean drinking water before use.
- Do not freeze!

8.2 Transportation

When transporting the UrSpring:

- Make sure the temperature of the UrSpring [does not drop below 0 °C (32°F) or rise above 55 °C (131°F).
- Make sure the UrSpring is not subject to substantial vibrations or physical shocks.

8.3 Disposal

Make sure that the UrSpring and its filter modules are disposed of in compliance with local legislation, regulations, instructions and precautions concerning health, safety and environment.
Make sure to dispose or recycle the following materials in an environmentally-friendly manner:

- All plastic parts marked with a recognizable code for recycling.
- The battery is located on the main printed circuit board in the control unit.
- The printed circuit board and attachments. These parts must be disposed of as electrical and electronic waste.

The symbol on the product, the accessories or packaging indicates that this device must not be treated as unsorted municipal waste, but must be collected separately. Dispose of the device

via a collection point for the recycling of waste electrical and electronic equipment if you live within the EU and in other European countries that operate separate collection devices for waste electrical and electronic equipment. By disposing of the device in the proper manner, you help to avoid possible hazards for the environment and public health that could otherwise be caused by improper treatment of waste equipment. The recycling of materials contributes to the conservation of natural resources.

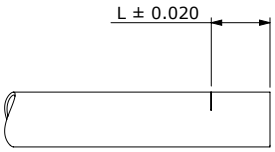
John Guest®

Data Sheet DS-1127

Tube Groove Details - Standard Imperial

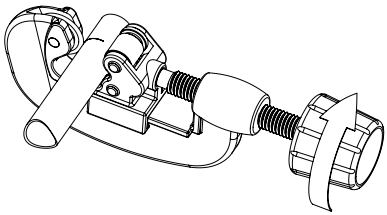
The information provided here relates to Stainless Steel and hard Tubing and to provide a groove beyond the collet teeth upon full insertion of tube.
This groove will prevent the tube from slipping in most applications.
The use of a tube cutter to produce the groove is a suggestion only and the groove produced by this method will depend on the model used.
It is the repsonsibility of the installer to check the integrity of the connection and the functionality of the groove.

1. Mark required groove position on Tube, refering to the table below.



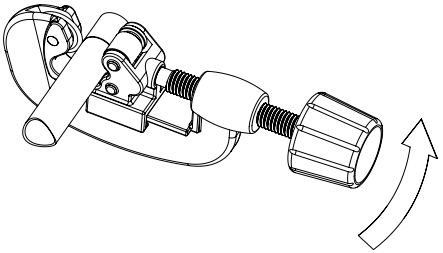
2. Bring cutter wheel up to mark and pinch the Tube between the rollers and the cutter wheel.

3. Turn handle 1/4 turn.

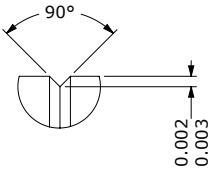


4. Rotate cutter around the Tube, ensuring a 360° turn is made and that the complete groove is aligned.

5. Remove cutter from Tube.



6. If groove is to be machined, use the details shown here.



All sizes in Inches.
See Sheet 2 for Metric sizes

SIZE	5/32	3/16	1/4	5/16	3/8	1/2	5/8
L	0.250	0.250	0.285	0.315	0.400	0.450	0.615

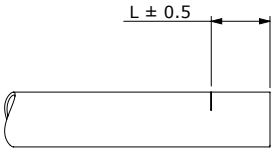
John Guest®

Data Sheet DS-1127

Tube Groove Details - Standard Metric

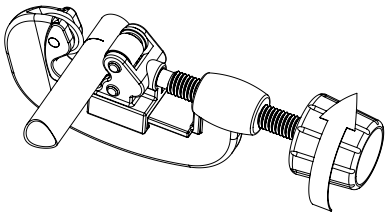
The information provided here relates to Stainless Steel and hard Tubing and to provide a groove beyond the collet teeth upon full insertion of tube.
This groove will prevent the tube from slipping in most applications.
The use of a tube cutter to produce the groove is a suggestion only and the groove produced by this method will depend on the model used.
It is the repsonsibility of the installer to check the integrity of the connection and the functionality of the groove.

1. Mark required groove position on Tube, refering to the table below.



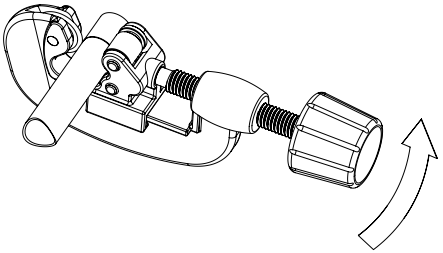
2. Bring cutter wheel up to mark and pinch the Tube between the rollers and the cutter wheel.

3. Turn handle 1/4 turn.

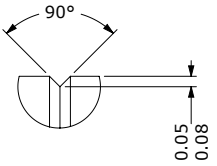


4. Rotate cutter around the Tube, ensuring a 360° turn is made and that the complete groove is aligned.

5. Remove cutter from Tube.



6. If groove is to be machined, use the details shown here.



All sizes in mm.
See Sheet 1 for Inch sizes

SIZE	4mm	5mm	6mm	8mm	10mm	12mm	15mm	18mm	22mm
L	6.4	6.4	7.3	8.0	10.2	14.6	16.4	18.3	19.8

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