

# ELYSATOR® trio .1

The new generation of corrosion protection devices with even more functions for small and medium sized heating systems.



**New with  
filtration**

4 safety features for clean heating water.

- Filtration
- Micro gas bubble separator
- Anode protection
- Magnetic flow filter

- **Even better filtration**
- **Even easier maintenance**
- **Even more effective insulation**

Today's heating systems place ever increasing demands on the water they contain. The ELYSATOR® trio .1 reduces corrosion by removing oxygen and regulating the pH value. At the same time, impurities of all kinds are also reliably removed. This enables trouble-free operation of the heating system.



## ELYSATOR® trio .1

Underfloor heating systems used to be installed with plastic pipes that were permeable to oxygen. Technology has now progressed to such an extent that it is possible to produce almost fully diffusion-proof underfloor heating pipes. Nevertheless, valves, threaded fittings, circulation pumps, control units, automatic air vent valves and faulty expansion vessels can be significant sources of oxygen ingress. Oxygen diffusion into the heating water, a pH value that is too low, or increased electrical conductivity of the system water can lead to corrosion and to sludge deposits in the heating system from corrosion products. In the past, the addition of chemical corrosion inhibitors was the most widespread form of corrosion protection. In many cases, however, it was found that no active protection was achieved in crevices or under deposits of dirt or rust, so the problem was not remedied satisfactorily. In addition, ensuring the correct dosage of inhibitors is time-consuming and costly. Even the use of

### Degassing

Microbubble removal

### Anode protection

ELYSATOR system to prevent rust formation

### NEW: Particulate water filter

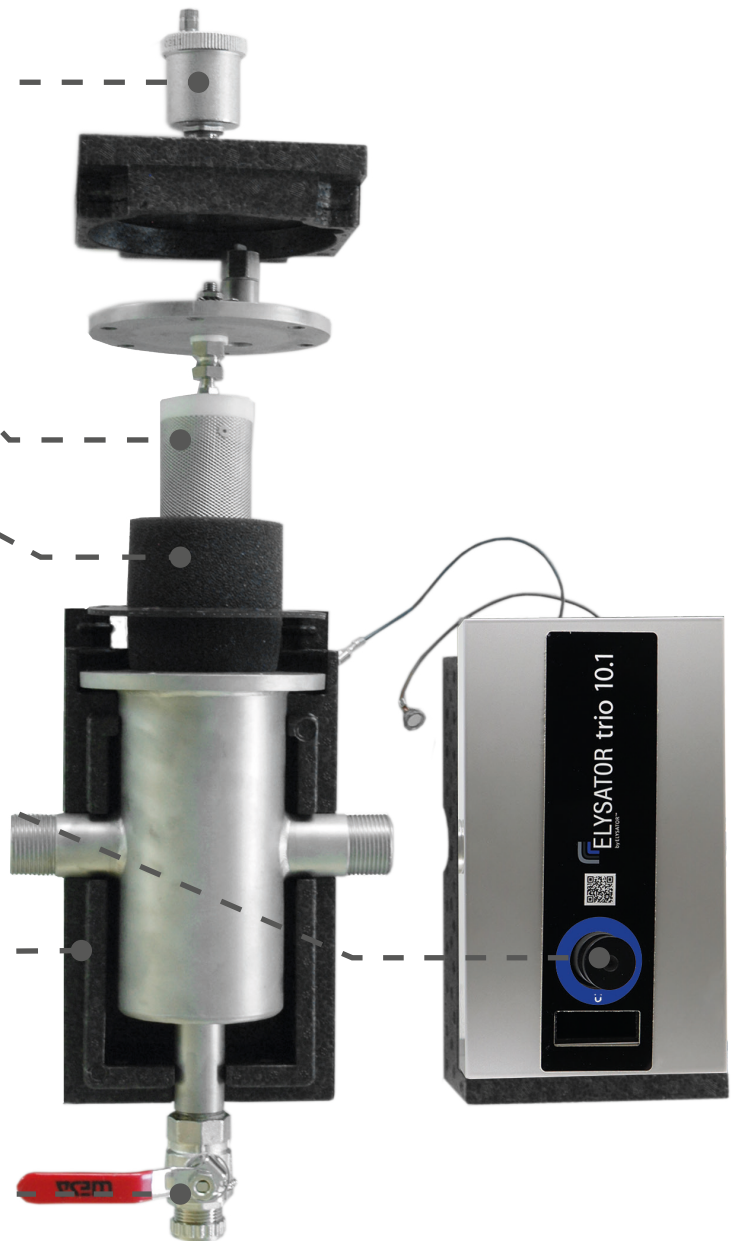
### Magnetic flow filter

Desludging and cleaning

### New EPP insulation

### Drain valve

To discharge sludge, magnetite and particles of all kinds



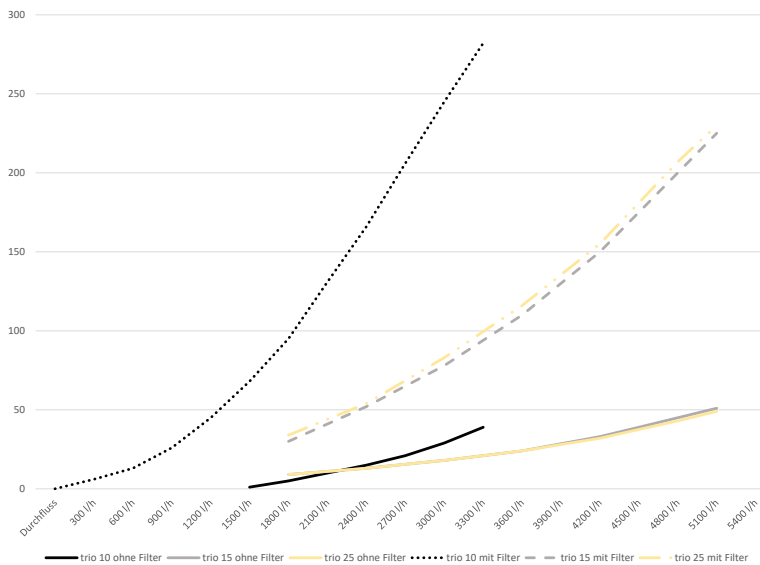
heat exchangers to separate the system into a heating circuit and a boiler circuit ultimately only divides the problem into two parts, without achieving an active corrosion protection effect. Modern heating systems react more sensitively to signs of corrosion and the settling of substances dissolved in water.

## 4 safety features

### 1. Particulate water filter

Non-magnetic particles may also be present in the system water. They clog up the system and increase the energy demand.

Conventional sludge collectors work according to the gravity principle at full throughput, and do not filter out small particles. Thanks to the particulate water filter, these particles remain in the filter housing and are flushed out during blowdown. This is also possible without interrupting operation. The filter can be replaced as necessary.



### 2. Degassing

In every heating circuit there are gases which have a negative impact on the heating output and cause noise. With a conventional air vent valve, the gases are only partially removed, as most of the gas bubbles are too small to collect in the air vent valve. A specially designed filter is required to eliminate these micro air bubbles. The fine bubbles have to be collected and merged, because only large bubbles have enough buoyancy to rise to a rest zone. From there, they are removed from the system by an automatic device.

The ELYSATOR® trio .1 can even dislodge and remove air pockets from the highest points in the heating system. This takes place continuously, efficiently and without external energy.

Flow noise and air pockets disappear, pumps are protected and corrosion is reduced.

The filter insert is made from stainless steel and is therefore practically wear-free.

### Possible damage

- Sludge deposits in underfloor heating pipes due to corrosion products
- Blocking of regulating valves and pumps
- Corrosion holes in boilers
- Holes that lead to water damage
- Flow noise caused by corrosion-related gas formation
- Increased energy consumption due to irregular heat distribution





## Performance data

### ELYSATOR® trio 10.1

System water capacity	< 500 l
Throughput	< 3 m <sup>3</sup> /h
Connection dimension	1 "
Max. operating pressure	< 6 bar
Max. temperature	< 90 °C

### ELYSATOR® trio 15.1

System water capacity	< 1'500 l
Throughput	< 5 m <sup>3</sup> /h
Connection dimension	1,5 "
Max. operating pressure	< 6 bar
Max. temperature	< 90 °C

### ELYSATOR® trio 25.1

System water capacity	< 5'000 l
Throughput	< 7 m <sup>3</sup> /h
Connection dimension	1,5 "
Max. operating pressure	< 6 bar
Max. temperature	< 90 °C

## Installation

The ELYSATOR® trio .1 is usually installed directly in the main circuit of the system. In larger systems the ELYSATOR® trio .1 can also be situated in a bypass or partial water flow. Several devices can also be combined within one system.

## Operation and maintenance

The ELYSATOR® trio .1 is low maintenance. A function indicator shows information about the anode status. Anode replacement is simple and is carried out every 2 - 4 years when the indicator falls into the red area.

The micro gas bubble separator does not require any maintenance. The ELYSATOR® trio .1 should be blown down as required, but at least once per heating season. The filter can be checked at the same time and replaced if necessary.

Heating operation does not have to be interrupted for blowdown; it is carried out by operators themselves in a few simple steps.

### 3. Anode protection

The reaction tank of the ELYSATOR® trio .1 is equipped with a sacrificial anode made from high-purity magnesium. A galvanic current forces the oxygen to attach to the sacrificial anode. This produces magnesium hydroxide – an effective agent for binding oxygen and acid. The pH value is increased and stabilised.

In this way, the ELYSATOR® trio produces low-salt, alkaline water with a minimum oxygen concentration. The process is environmentally responsible, does not use chemicals or external energy, and always takes place as needed. In line with the applicable standards, this is the requirement for modern metal components to achieve their intended service life.

The electrochemical process in the ELYSATOR® is self-regulating, depending on the aggressiveness of the water, and can be monitored via an indicator. The spent anode is quick to replace in a few simple steps. The reaction tank is made wholly of stainless steel. This makes it practically wear-free.

The ELYSATOR® process leads the market in this type of water conditioning and has done so for more than 50 years.

### 4. Magnetic flow filter

The magnetic flow filter of the ELYSATOR® trio .1 actively filters out corrosion particles with a very strong permanent magnet. Unique to the ELYSATOR® trio .1 is the externally fitted magnet (neodymium magnet) with its extremely strong pull force of 220 Newtons.

This means that blowdown can take place without interrupting heating operation.

Pulling off the magnet releases the corrosion particles and they can be easily flushed out via the blowdown valve. The device does not need to be opened for this.

### 7 GOOD REASONS

- Only device with 4 functions.
- Maximum safety for maintaining the value of your heating system – whether old or new.
- Well engineered result of years of research and development.
- A durable Swiss quality product made from stainless steel.
- Environmentally responsible technology without external energy or chemicals
- Self-regulating and low maintenance
- Function can be measured and monitored.