

# ELYSATOR TRIO SARJA.

Ensimmäinen vedenkäsittelylaite, jossa yhdistyy kolme hyväksyttyä menetelmää suojaa korroosiota vastaan!

1. Magnesium anodi

Kohottaa pH-arvon samalla vetyä erkaantuu kiertoon.

2. Mikrokuplan poisto,

erottamalla ja päästämällä ilman pois ilmakellon kautta.

3. Magneetti

Poistaa irtaantuneet rautahileet



Elysator Trio on pieni ja tehokas vedenkäsittelijä, pienissä järjestelmissä

Elysator Trio on, niin kuin muut Elysator laitteet hyvin todistettu Sveitsiläinen laatu tuote.

Elysator toimii ilman sähköä tai kemikaaleja. Järjestelmä edellyttää erittäin vähäistä ylläpitoa.

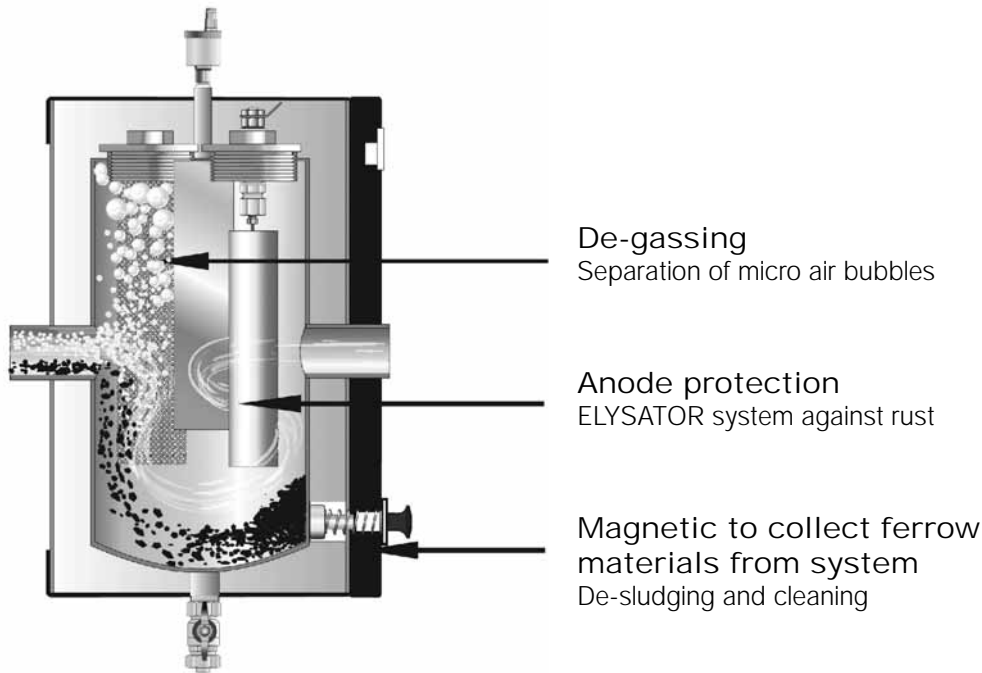
Triot voi asentaa joko suora virtauksella tai sivuvirtauksella.

### Lämmityskiertoihin mitoitukset

Trio 10 max 0,5 m<sup>3</sup>

Trio 15 max 1,5 m<sup>3</sup>

# ELYSATOR TRIO PROVIDES TRIPLE SECURITY



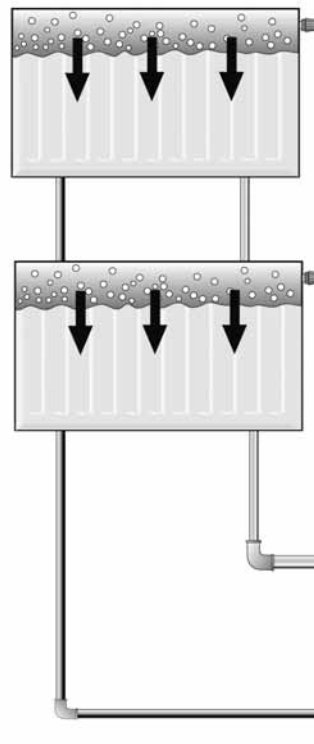
## 1. De-gassing / de-oxygenation

Gases are absorbed in cold water, but are disengaged again when re-heated. Then small gas bubbles are formed, exactly as with a glass of mineral water (also known as Henry's law on absorption).

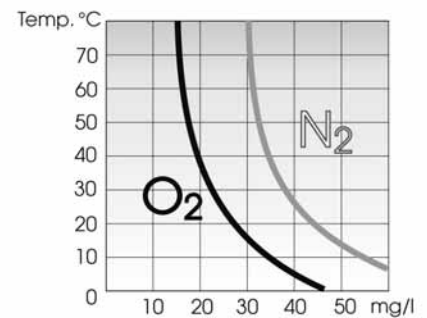
ELYSATOR trio therefore removes air and gas from the plant by using the temperature difference in the circulation in the same manner as a "pump".

In a heating plant the water is cooled in the radiators and in the heating circuits. There the water absorbs gases, which are released in the boiler after heating. Unfortunately, these micro air bubbles are carried along with the circulation because they have a lower buoyancy than the speed of once through flow. Ordinary air separators are able only to remove large stagnant air masses. For separation of micro air bubbles, a specially constructed filter is required. The tiny bubbles must be retained and collected, because it is only the large bubbles which have sufficient buoyancy to rise to a stagnant area. There they can be removed from the plant with the aid of an automatic device.

When hot water which has been heated up in the boiler is de-gassed, it is able to absorb and take up gases again.



Absorption of gases in water (at 2 bar)



With rising temperatures, the gas absorption in water decreases, and gas bubbles are formed.

# FUNCTIONING

So that deposits will not lead to clogging of heating circuits or rusting through, the heating plant must have a sludge filter.

Ordinary sludge collectors function according to the gravity principle in full flow, but do not have the capability of capturing small particles.

The new ELYSATOR trio is equipped with a very strong permanent magnet. The apparatus is also designed to attract corrosion particles magnetically. ELYSATOR trio is distinctive because it is equipped with an external magnet and has an enormous attraction capacity of 220 newton.

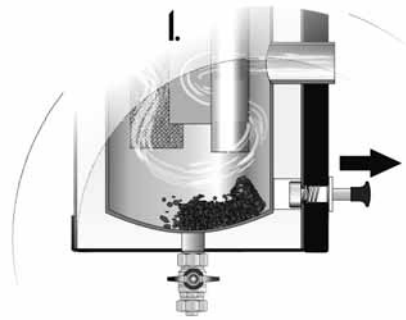
In this way draining may be done without interruption in the heating operation.

When the magnet is drawn back, corrosion particles are released and can easily be emptied out through the drain valve. It is not necessary to open either the apparatus or to disassemble the magnet.

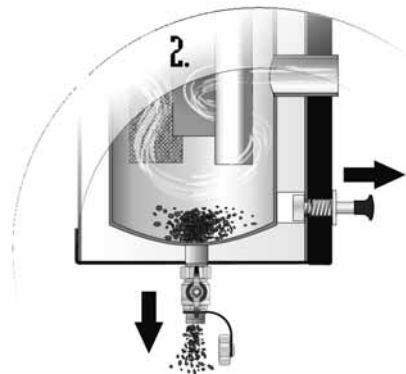
This technically very elegant solution for ELYSATOR trio was a special challenge for the engineers who have developed the apparatus. The screen had to be constructed from stainless steel because ordinary steel screens a magnetic field.

The high technology magnet which is used consists of an alloy of rare earth types (NdFeB). It has an incredible attraction power of 22 kg, even though it is only the size of a coin!

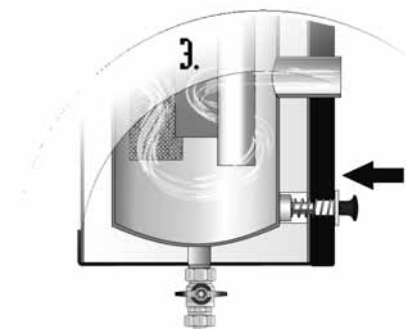
Even the smallest sludge particles do not escape an ELYSATOR trio!



Pull out the magnet



Open the drain valve

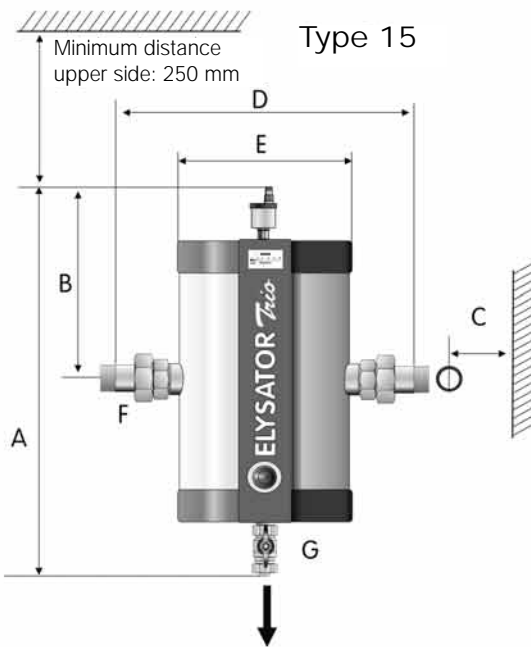
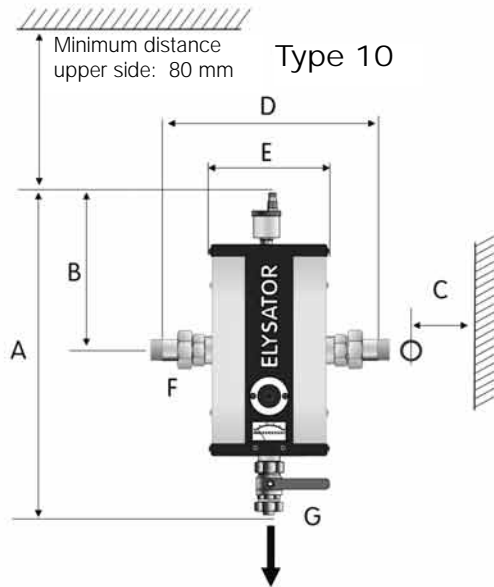


Close the valve drain

# TECHNICAL DATA AND DIMENSIONING

Boiler materials: Chrome steel V4A

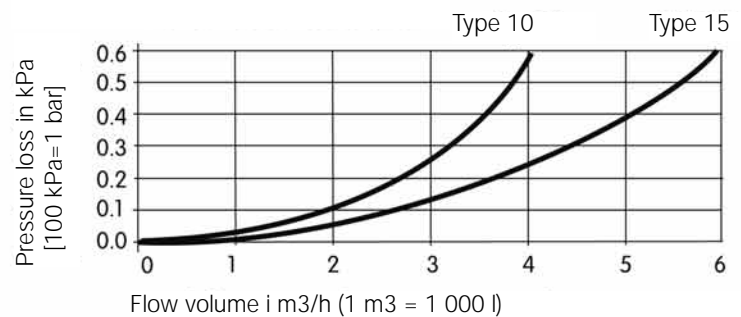
Insulation:  
 Type 10: Steel plate/foamed plastic  
 Type 15: Polystyrol/foamed plastic



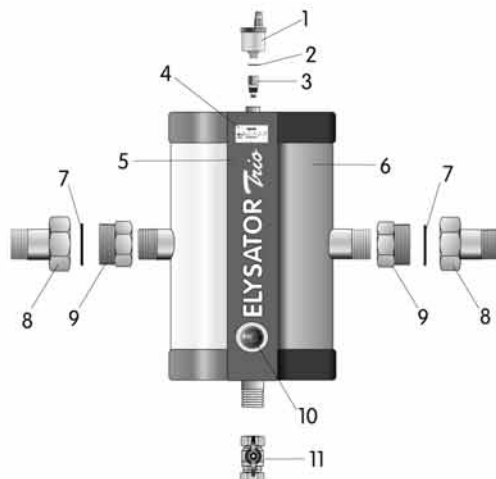
Dimension	Type 10	Type 15
A Height, total	420 mm	580 mm
B Upper edge, finish middle	210 mm	290 mm
C Wall, finish middle	72 mm	125 mm
D Installation length incl. screw connection	260 mm	390 mm
E Diameter	145 mm	220 mm
F Entrance/Exit	1"	1½"
G Emptying	¾"	¾"

Data for max. capacity	Type 10	Type 15
Content system water:	< 500 l	< 1 500 l
Flow:	< 3 m <sup>3</sup> /h	< 5 m <sup>3</sup> /h
ELYSATOR trio:		
Finish diameter:	1"	1½"
Operational pressure max:	< 10 bar	< 10 bar
Temperature max:	< 90°	< 90°

## Flow resistance



Once through flow direction to left or right



## Delivery includes;

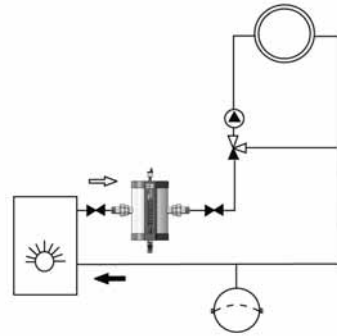
1. Air separator
2. Sealing
3. Screw connection for air separator
4. Gauge 10 mA
5. Gauge channel
6. Reaction tank, insulated
7. Sealing
8. Screw connection 1½"
9. Screw connection 1½"
10. Very strong magnet
11. Drain tap

# CORRECT INSTALLATION

- De-gassing
- Anode Protection
- De-sludging

## Installation in the main header tank flow

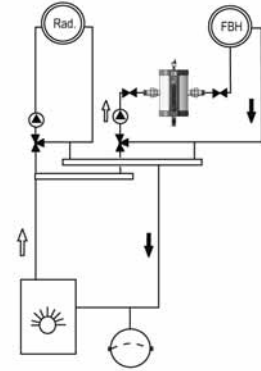
In order to separate as much of the micro gas bubbles as possible, ELYSATOR trio can be mounted in the heating plant's main header tank (full through flow). Filtering of dirt circulating in the flow is also successful.



- De-gassing
- Anode Protection
- De-sludging

## Installation in a plant group

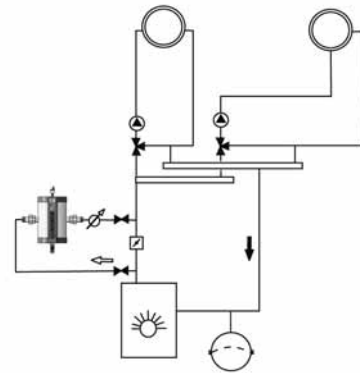
If the source of oxygen diffusion is known (i.e. floor heating group), the ELYSATOR trio may also be placed in the group's circulation.



- De-gassing
- Anode Protection
- De-sludging

## Installation in a bypass

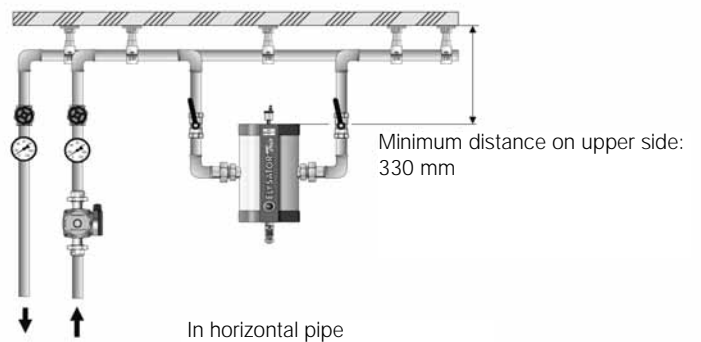
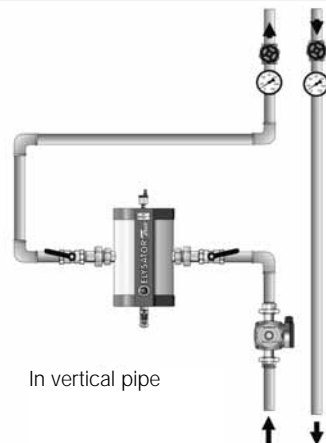
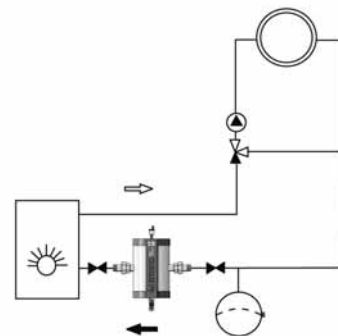
If ELYSATOR trio is placed in a bypass, a through flow meter must also be installed. The less the partial flow, the less de-gassing and filtration is achieved. The water conditioning capability of the sacrificial anode still works with a minimum once through flow volume of up to 2 l/min.



- De-gassing
- Anode Protection
- De-sludging

## Installation in the main header tank return flow

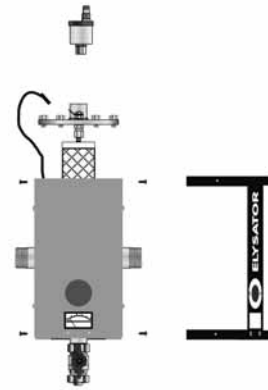
If the sludge collector's function is superior, ELYSATOR trio can be mounted in the main header tank's return pipe. The water conditioning capability of the sacrificial anode also works in the return flow, but then it is almost impossible to separate out micro gas bubbles.



# CHANGING THE ANODE

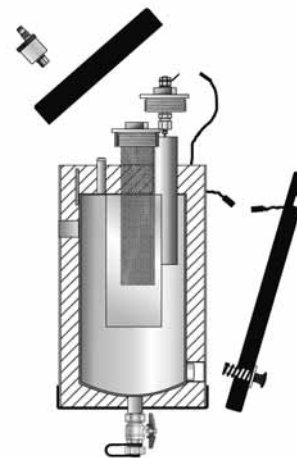
## Preparation Type 10

1. Switch off and empty ELYSATOR
2. Loosen the front cover
3. Remove the air separator
4. Take the insulation off (cover) on the upper side
5. Pull the contact pad loose from the anode's cable shoe
6. Open the flange

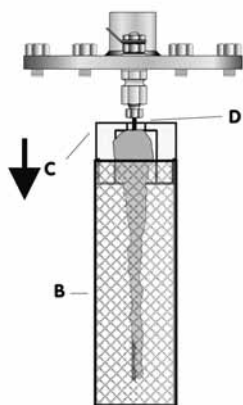


## Preparation Type 15

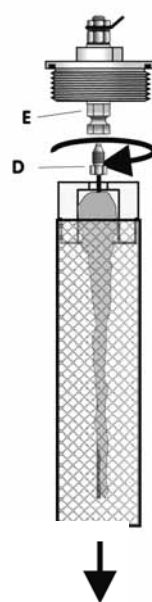
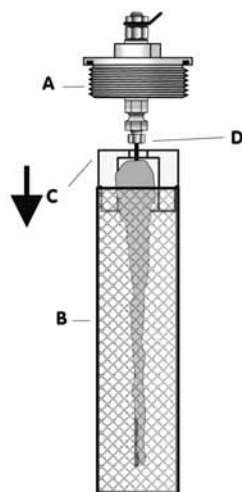
1. Switch off and empty ELYSATOR
2. Loosen the front cover, loosen the cable connection (plug)
3. Remove the air separator
4. Take the insulation off (cover) on the upper side
5. Pull the contact pad loose from the anode's cable shoe
6. Unscrew plug 2" (A)



## Flange Type 10



## Plug Type 15



## Changing the anode

7. Pull the filter fastening (C) downwards so that the cone screw (D) is released
8. Hold the insulating screw firmly (E) with a 17 mm open-ended spanner and loosen the cone screw (D)
9. Install a new washer (G), O-ring, EPDM rubber
10. Install a new anode (H) in reverse sequence
11. After installation of the anode: Check that the insulating screw (E) is screwed in properly. Tighten a little as necessary.

## Cleaning

12. The filter must be cleaned as necessary with de-scaling agent
13. ELYSATOR must be hosed clean inside
14. Dry the apparatus outside with a damp cloth