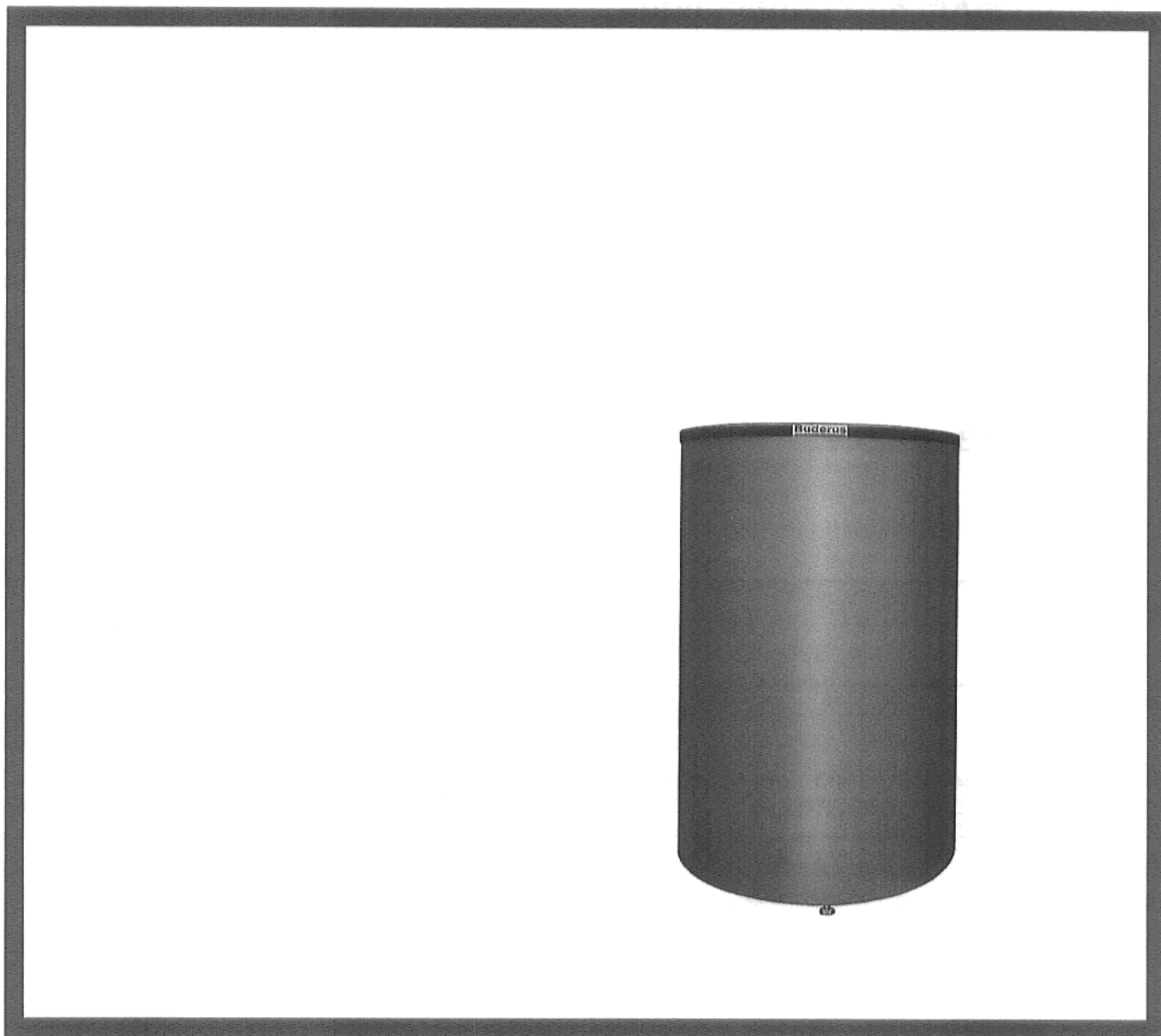


# Installation manual

Indirect-fired water heater  
S 150, 200, 300



**Please save these instructions!**

# 1. General

The S-series indirect-fired water heaters are delivered assembled.

Only the top cover of the tank and the screw-on feet have to be assembled in the field.

A separate repair instruction sheet supplied with the replacement anode describes the testing and replacement of the magnesium anode.

\* The anode should be inspected annually.

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# 2. Dimensions and connections

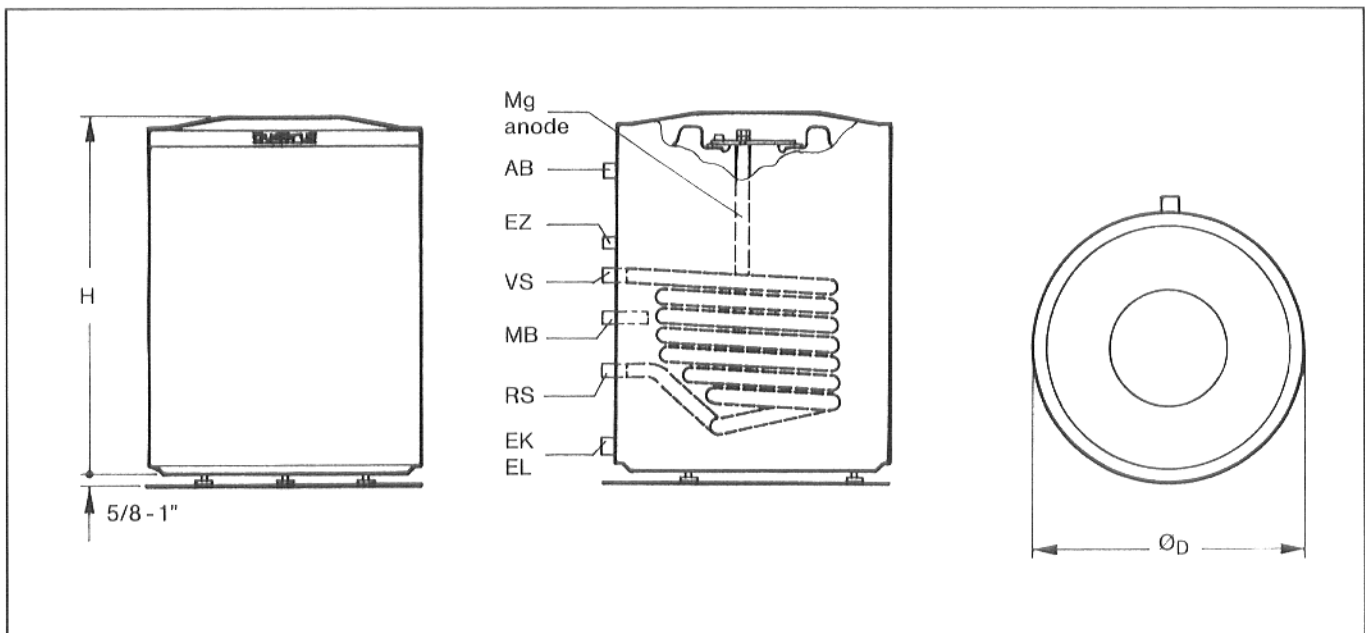


Fig. 1

| Model | storage tank size gall. | Ø D in                         | H in                           | AB   | VS   | RS   | EK/EL                            | EZ                               |
|-------|-------------------------|--------------------------------|--------------------------------|------|------|------|----------------------------------|----------------------------------|
| S 150 | 39                      | 26 <sup>1</sup> / <sub>2</sub> | 34 <sup>5</sup> / <sub>8</sub> | R* 1 | R* 1 | R* 1 | R* 1 <sup>1</sup> / <sub>4</sub> | R* 3 <sup>3</sup> / <sub>4</sub> |
| S 200 | 52                      | 26 <sup>1</sup> / <sub>2</sub> | 42 <sup>3</sup> / <sub>8</sub> | R* 1 | R* 1 | R* 1 | R* 1 <sup>1</sup> / <sub>4</sub> | R* 3 <sup>3</sup> / <sub>4</sub> |
| S 300 | 79                      | 26 <sup>1</sup> / <sub>2</sub> | 57 <sup>3</sup> / <sub>8</sub> | R* 1 | R* 1 | R* 1 | R* 1 <sup>1</sup> / <sub>4</sub> | R* 3 <sup>3</sup> / <sub>4</sub> |

### Key:

- AB = domestic hot water outlet
- VS = boiler water supply
- RS = boiler water return
- EK = cold water inlet
- EL = drainage
- EZ = circulation inlet
- MB = measuring point domestic hot water

\* Refer to Supplementary Sheet for Connection Adapters.

### 3. Delivery

The model S indirect-fired water heaters are shipped with high resistance foam insulation and jacket factory assembled. The tank top is supplied loose on the tank.

Screw on feet and other accessories are packed under the lid of the packing material.

### 4. Transportation

The storage tank can be transported in original packing material or unpacked with the Buderus boiler handtruck\* (Fig. 2).

\* = must be ordered separately

- Remove plastic film.
- Remove accessories bag and screw-on feet from the packaging lid.
- Remove packaging lid and put it on the ground as a support (Fig. 3).
- Remove the storage tank hood.
- Tilt the storage tank over the edge of the pallet and lay it on its side on the packaging lid (Fig. 3).
- Take off the pallet.
- Attach the three screw-in feet to the bottom of the tank. They should extend about 3/4" (Fig. 3).
- Take the pallet away.
- Convey the storage tank to the location where it will be installed.

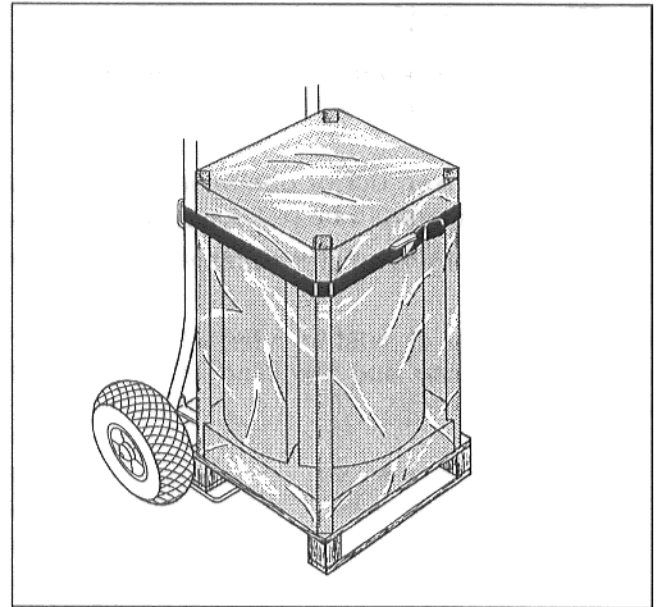


Fig. 2

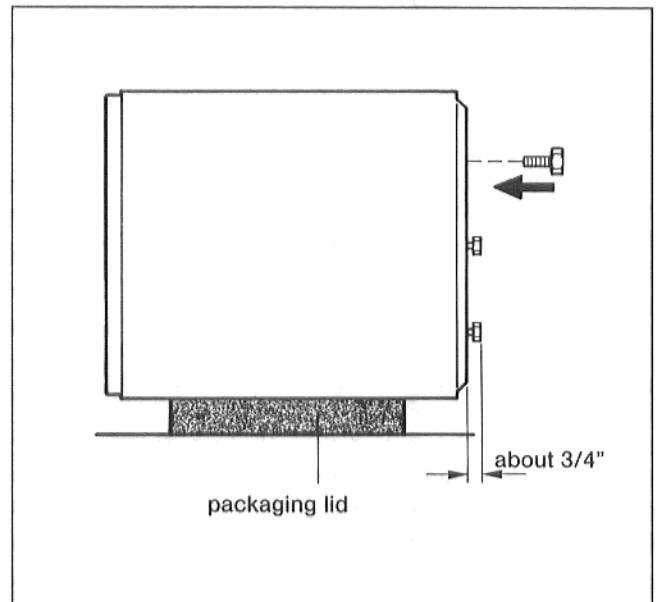


Fig. 3

## 5. Placement

The indirect fired water heater must be installed indoors in a location heated to a minimum temperature of 32°.

If the tank is taken out of operation, it must not freeze. It must therefore be protected or drained.

The floor must be level and capable of bearing a load.

Clearances (Fig. 4) must be adequate to allow for connecting piping and servicing of pumps and controls.

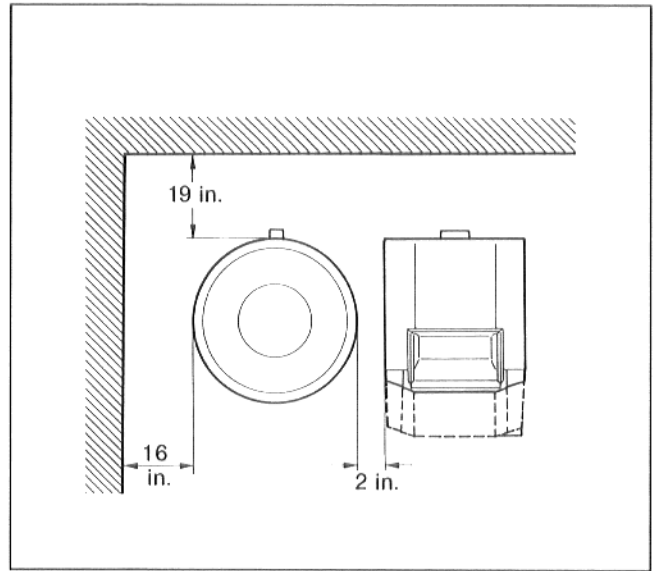


Fig. 4

## 6. Assembly

- Align the storage tank by adjusting the screw-on feet (Fig. 5).

### Installation

The installation of the indirect-fired domestic hot water tank and all associated piping must be in accordance with all applicable codes and regulations. All work must be performed by a licensed contractor.

An approved and properly sized pressure and temperature relief valve must be installed as shown in Fig. 6. It is important that the P&T relief valve discharge line be piped directly to a drain without any shutoff valves or restrictions, and that the discharge line be the same diameter as the connection on the P&T valve.

It is advisable to periodically check the operation of the pressure and temperature relief valve.

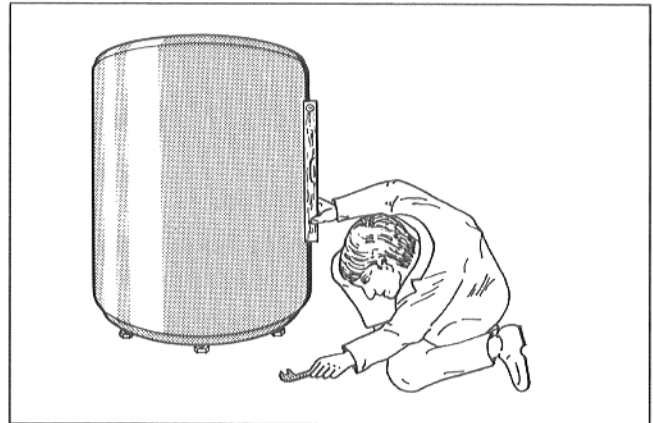


Fig. 5

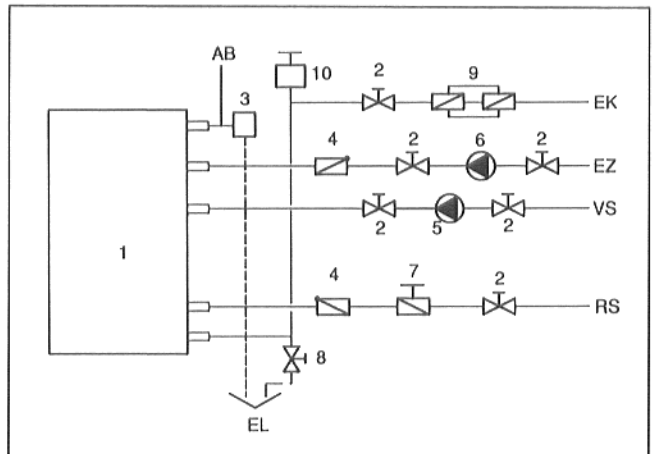


Fig. 6

- |  |                                   |
|--|-----------------------------------|
| 1 indirect fired domestic hot water tank | AB = domestic hot water out       |
| 2 service valve                          | EK = domestic cold water in       |
| 3 P & T valve                            | EZ = domestic water recirculation |
| 4 flow check                             | VS = boiler water supply          |
| 5 circulator                             | RS = boiler water return          |
| 6 optional recirculator                  | EL = drain                        |
| 7 air purge valve                        |                                   |
| 8 drain valve                            |                                   |
| 9 backflow preventer                     |                                   |
| 10 vacuum relief                         |                                   |

### Safety limits

- heating water temperature . . . . . max 160°C (320°F)
- operating pressure (hot water) . . . . . max 25 bar (362 psi)
- domestic hot water temperature . . . . . max 95°C (320°F)
- operating pressure (domestic hot water) . . max 10 bar (145 psi)\*

\*100 psi max. in Massachusetts

### Installing the Ecomatic sensors

- Install the sensors in the immersion well on the rear of the storage tank (Fig. 7).
  - The plastic spiral for holding the sensors and spacers together is pushed back automatically when pushed in (Fig. 8).
- To make the contact between the immersion well and the surface of the sensor so that the temperature is transferred reliably, the compensating spring must be pushed in between the spacers and the sensor (Fig. 8).
- Push the sensor fastening from the side or the top onto the head of the immersion well (Fig. 8).

- **Note:** The sensor for the optional SP-34 D control must be packed firmly against the wall of the sensor well with suitable material (supplied by others).

### Magnesium anode

- Check whether the ground lead of the magnesium anode is connected to one of the fastening screws of the inspection port lid (Fig. 10).

### Control panel Ecomatic 4000

- Connect the plug on the ground lead with the cable from the control panel (Fig. 9).  
For other control panels, the plug is not used.

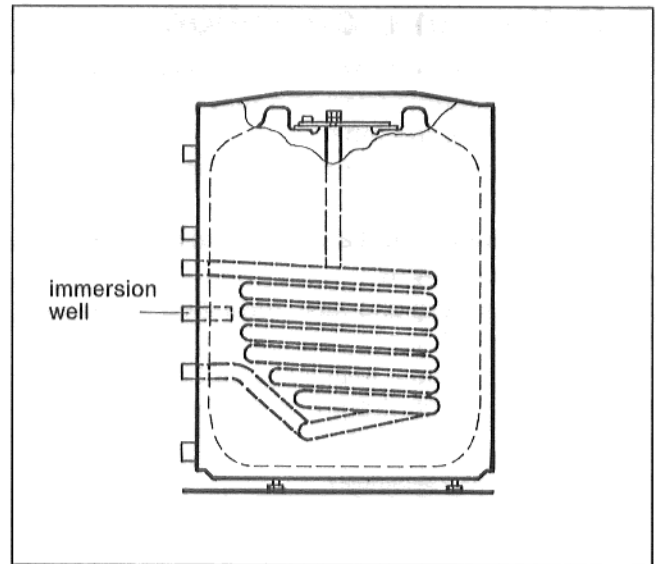


Fig. 7

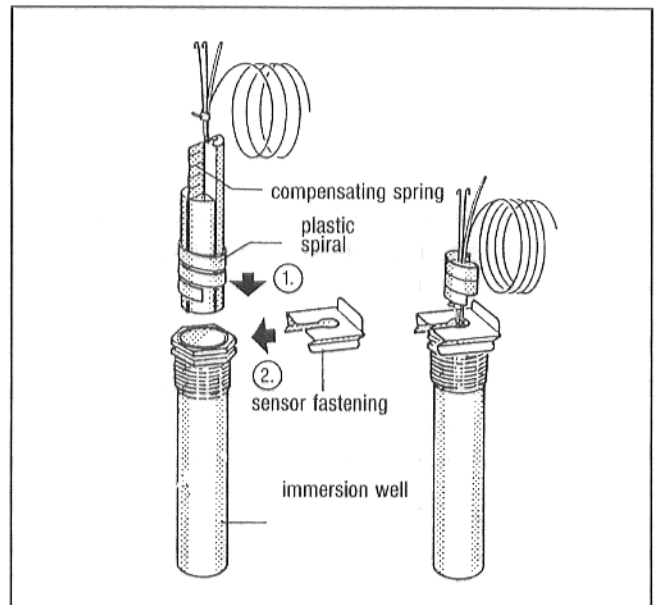


Fig. 8 – Schematic illustration

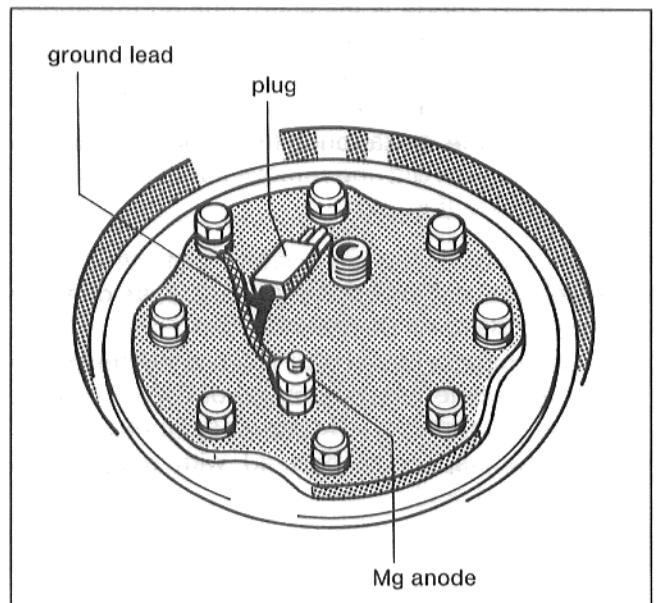


Fig. 9

## 7. Putting into operation

A check must be made **to confirm that the indirect-fired water heater is filled and that cold water can flow into the storage tank.**

All connections and pipes must be checked for leaks.

The magnesium or inert anode \* must be connected and function properly.

Operating instructions are furnished with each available control \*.

The installation must initially be put into operation by the installing contractor in the presence of the owner of the installation.

\* = must be ordered separately

## 8. Maintenance

If there is no written agreement to the contrary, the indirect-fired water heater may only be filled with drinking water.

In general it is recommended that a licensed contractor or maintenance company check and clean the indirect-fired water heater at least once every 2 years.

If the water supply is unfavorable (hard to very hard water) and the temperature load is high, more frequent cleaning is necessary.

### Cleaning

Shut off the power to the heating installation before cleaning the storage tank.

- Shut off cold water supply, open storage tank drainage (EL). To vent air, open a venting tap in a high position (Fig. 11).
- Screw out the self-tapping screws from the storage tank top cover.
- Remove the top cover.

#### Notes:

If an inert anode is installed, pull off the anode plug with the lead. Do not damage the anode.

- Control panels Ecomatic 4000; pull off plug with ground lead (Fig. 10).
- Unscrew the hexagonal head bolts from the inspection port lid and remove it with the magnesium anode (Fig. 10).

**Note:** Never break up a calcified crust with a hard, sharp-edged object because this could damage the thermoglaze on the inner walls.

- Check magnesium anode and seal. If the anode has diminished to a diameter of 5/8 – 3/8 in., it should be replaced. Replace seal if necessary.
- Replace inspection port lid with magnesium anode and seal.

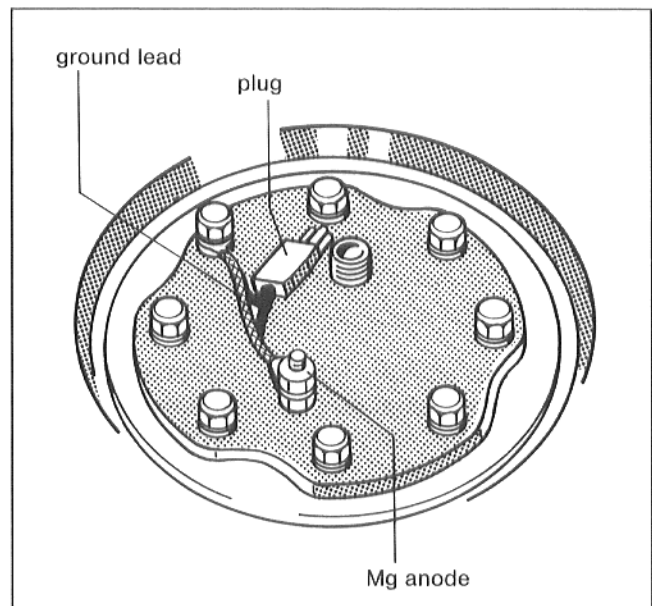


Fig. 10

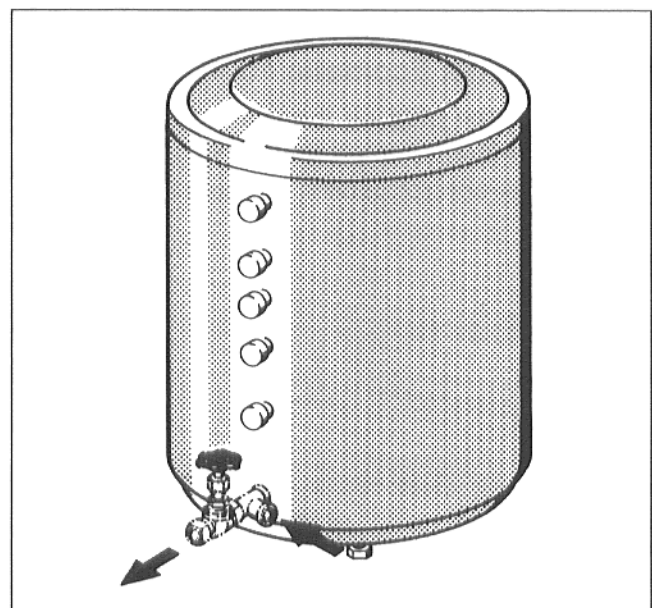


Fig. 11

- Insert the ring of the ground lead and screw in the hexagonal head bolts (Fig. 12).

Control panel Ecomatic 4000: Reconnect the plug on the ground lead to the lead from the control panel.

**Note:** Screw in all hexagonal head bolts 'finger tight' and then tighten a three-quarter turn with a wrench (the recommended torque is 30 ft. - lb.).

- Check inspection port lid for a tight fit.
- Insert thermal insulation disk in front of the inspection port lid.
- Replace the storage tank top cover and screw on from the side with four self-tapping screws.
- Put the installation back into operation.

### **Inert anode \***

The protective function of the inert anode is indicated by a green signal lamp on the control panel (shockproof plug).

If there is a malfunction (no protection against corrosion), the signal lamp flashes red.

If this is the case, please get in touch with your contractor or heating company as soon as possible.

The anode should not be soiled with oil or grease.

\* = must be ordered separately

Subject to change without notice!