

Anode Rod Inspection

Models: Ariston P10S/P15S/GL2.5/GL4/GL4CA/GL6+/GL2.5S/GL4S/GL4CAS/GL6+S
Ariston GL2.5Ti/GL4Ti/GL8Ti/GL2.5TiS/GL4TiS/GL8TiS
Bosch Tronic 3000T ES2.5/ES4/ES8



BOSCH



Please read this entire document prior to proceeding with any work.



WARNING:

- ▶ This work requires removing the inspection cover and heating element assembly to gain access to the anode rod. If you are in doubt about how to safely work both on electrical products and pressurized hot water storage tanks, please obtain the services of a professional with these qualifications.



This bulletin is a supplement to the product manuals supplied with the above listed models, and its recommendations must be followed to ensure the longevity of the product and to maintain full warranty coverage.

Background

Most hot water storage tanks manufactured and sold in the US, including the Ariston and Bosch models listed above, are made of steel. Steel when exposed to water will rust and corrode; corrosion can be defined as the electrochemical eating away of metal. To protect the hot water storage tank manufacturers employ two levels of protection, a glass lining on the inner tank surface exposed to the water and the insertion of a sacrificial anode rod.

What is an Anode Rod, and How Does it Work?

The anode rod is a replaceable sacrificial component of most hot water storage tanks and its purpose is to protect the tank against the elements of corrosion. Over a period of time, depending on water quality, the anode rod will naturally deplete as it sacrifices and deteriorates. Eventually, it loses its effectiveness completely. If this is allowed to happen, the storage tank itself will be attacked by water corrosion and will eventually leak.

Anode Rod Inspection Procedure and Frequency

At a minimum, inspect the anode rod every year and replace it every two years. In installations where the water is particularly aggressive/corrosive in nature, increase the frequency of inspections and change the anode rod accordingly. This may mean changing annually or sooner.

If the anode rod is allowed to deplete, galvanic and electrolytic corrosion will begin to attack the tank, causing it to fail and resulting in a water leak.

Tank leak failure due to a depleted anode rod is not covered under warranty.

To prevent this type of failure, inspecting and replacing the anode rod is a part of required maintenance.



Rapid degradation of the anode rod (less than 1 year) may indicate the presence of galvanic corrosion due to "stray" direct current. In this case, it may be necessary to add a grounding strap from the water heater to the copper plumbing.

How To Check The Anode Rod

1. Isolate the water heater from the electrical supply (depending on the specific model, this will mean either unplugging the product from its 120V outlet or turning off the appropriate circuit breaker).
2. Turn off the cold water supply to the water heater and then relieve pressure by opening the hot fixture that it is connected to.
3. Drain the water heater completely.
4. Remove the heating element assembly from the water heater.
5. Inspect the anode rod.
 - a. If the anode rod looks like the example in Figure 1, it is still in good working order.
 - b. The anode rod should be around 5/8" in diameter and a length of 6.5" (for 2.5/4 gallon models) and 8.25" for (7 gallon models). If it has heavily pitted, or if the width and length has deteriorated, it must be replaced immediately.

- c. For an example of an anode rod that was left fully deplete, please see Figure 2. The storage tank was damaged and developed a leak.

i If the storage tank has developed a leak, then it is too late to change the anode rod. The entire unit will need to be replaced.



Figure 1 Anode Rod In Good Condition

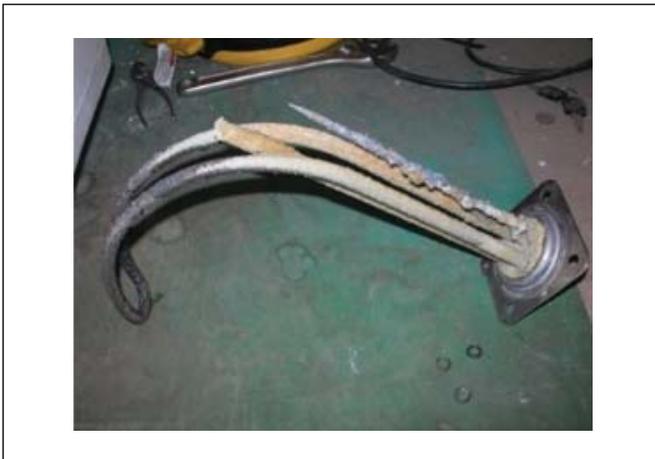


Figure 2 Depleted Anode Rod

Water Quality Requirements

This product must be supplied with potable water that is free from particulates, corrosive chemicals, and other contaminants, and meet the chemistry criteria shown in Table 1 below:

Ph		Hardness		Chloride Concentration	Total Dissolved Solids	Water Conductivity
MIN.	MAX.	MIN.	MAX.			
6.5	8.5	4 grains	20 grains	100 ppm	500 ppm	1200 μ S/cm

Table 1

It is the responsibility of the installer to ensure that the water quality is within the specifications laid out in Table 1.

Damage caused to the product by failing to do so will not be covered under warranty.

If you have any questions regarding the information provided in this document, please contact the Bosch Technical Support Department by phone at 1-800-283-3787, or via email at tankless.techsupport@us.bosch.com



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