

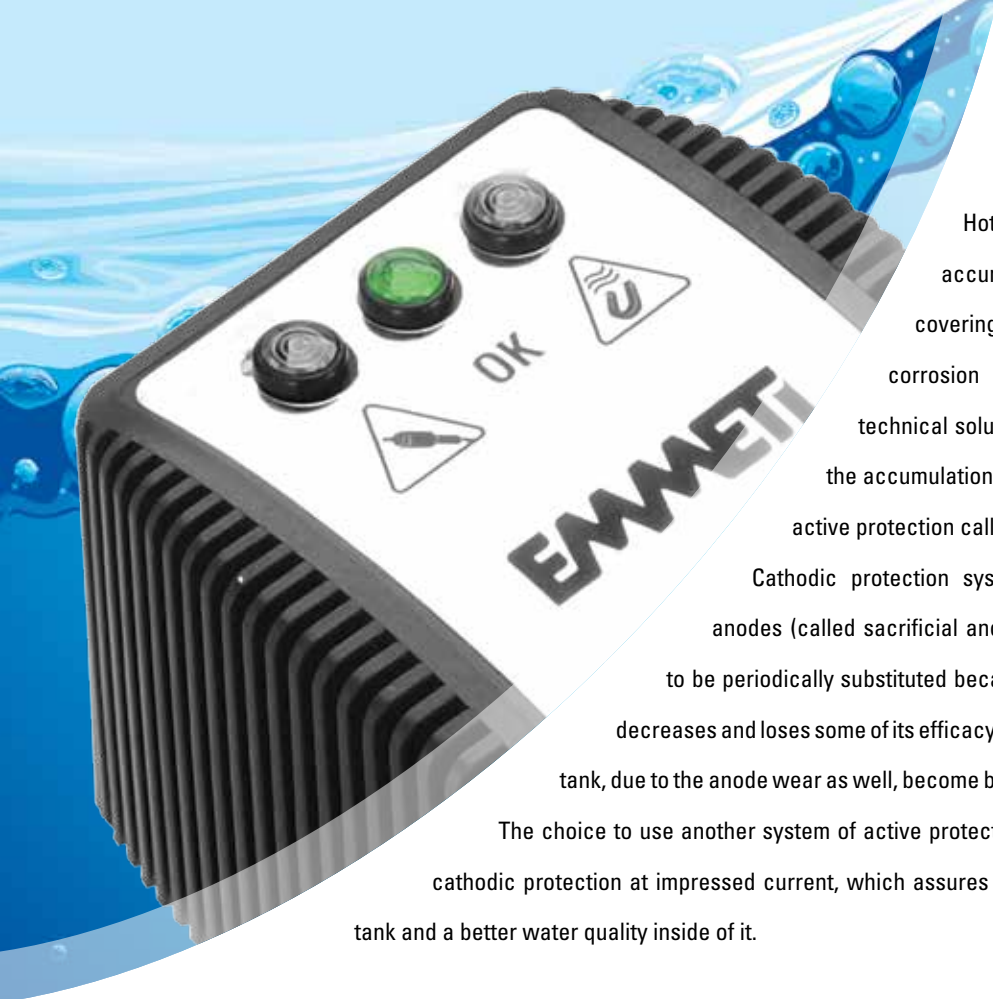


# BOGUARD Electronic anode

GB 01



**EMMETI**  
Ideas to install



## Protection against corrosion

Hot sanitary water containers as boilers and accumulation tanks are equipped with the relevant covering for passive protection against the electrochemical corrosion encouraged by the water; anyway, since this technical solution is not sufficient to grant the total covering of the accumulation tank walls, an action must be taken with a further active protection called cathodic protection.

Cathodic protection system traditionally used, consists of magnesium anodes (called sacrificial anodes) which are prone to problems as they need to be periodically substituted because of the wear; besides, over time, anode mass decreases and loses some of its efficacy; then sediments on the bottom of the accumulation tank, due to the anode wear as well, become breeding grounds for possible bacteria settlements.

The choice to use another system of active protection comes from these considerations, it is called cathodic protection at impressed current, which assures an increased protection against corrosion of the tank and a better water quality inside of it.

## Cathodic protection system at impressed current

Cathodic protection system at impressed current is carried out through a use of a device called electronic anode which assures the potential of the electrolyte through an impressed current. Potential preservation is ensured by a constant measuring of the potential difference between tank and anode; according to such measurements, device determines the intensity of the impressed current on the tank.

with Boguard



without Boguard

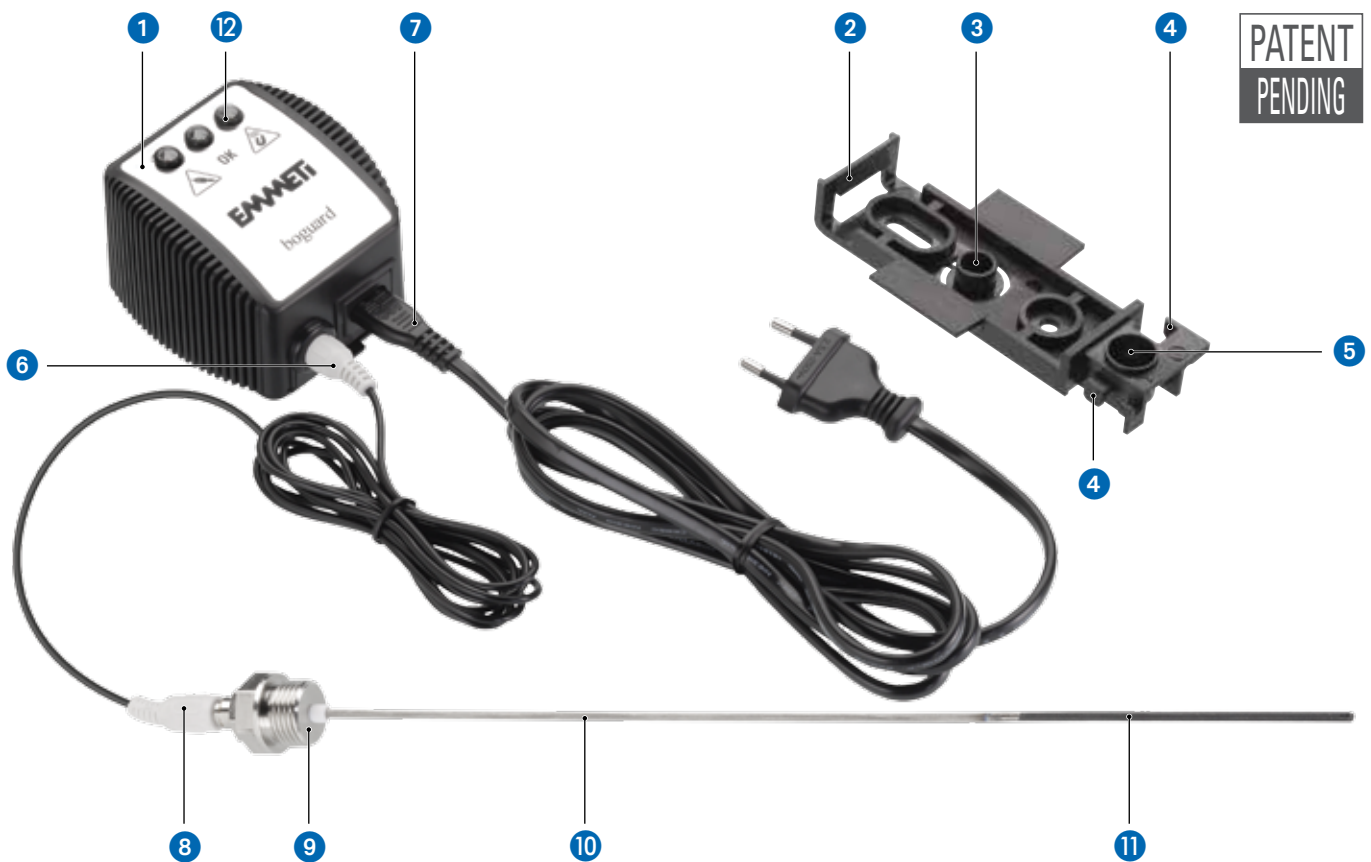


# Electronic anode Boguard

Boguard is the electronic anode at impressed current entirely developed by Emmeti, equipped with self-regulation of the protection potential, which preserves any surface exposed to the corrosion, until 7% of the internal surface of tanks and boilers made of steel and enamelled with plastic resins or glazed, within 5000 lt capacity.

Unlike any other electronic anodes types on the market, Boguard contrasts any corrosion phenomena without producing a significant quantity of hydrogen into the tank; this gas besides being flammable, if in a not minimum quantity, might give rise to degradation of some types of internal covering of the tank.

## Construction



- 1 Equipment
- 2 Fixing bracket
- 3 Protection plug for hole, when cable 6 is disconnected
- 4 Cables locking hooks
- 5 plug 3 housing, when unused
- 6 Male connector anode cable
- 7 Connector 230 V supply cable
- 8 Female connector anode cable
- 9 G1/2" threaded plug
- 10 Titanium rod (anode) available in two sizes:  
380 mm and 430 mm
- 11 Activated end
- 12 Indicator LED of operating status

## Technical data

- Power Supply: 230Vac, 50/60 Hz
- Control Power supply: 2,75÷3,8 Vdc
- International Protection class: IP55
- Room operating temperature: 0÷45 °C
- Threaded fitting of anode holder plug: G 1/2" male
- Anode with 3 mm diameter rod and activated titanium toe cap
- Max. absorption: 2,7 VA

## Features of Boguard electric anode

Boguard is equipped with a range of new features which make it unique on the market:

- 1) "Booster" function at switch on provides the highest potential for a limited time to speed up the protective function of the tank.
- 2) Reporting of the optimal functioning status.
- 3) Reporting of excessive power absorption of the tank.
- 4) Reporting of power absorption by the tank below threshold, bad electric contact indicator between equipment and activated titanium anode or water with extremely low electrical conductivity.
- 5) Reporting of open circuit, for example cable not connected between equipment and activated titanium anode.
- 6) Reporting of short circuit between positive and negative pole of activated titanium anode.
- 7) Time count of anode functioning in optimal condition (no anomalies), expressed in number of years and months, visible at switch on and tamper proof.
- 8) Detection of electrical leakages and current flows (both DC current and AC current) affecting the tank and significantly contributing to its internal corrosion.  
These current flows can be minor, therefore they do not require the intervention of the electrical safety devices of the system but they may be important cause of corrosion phenomena.
- 9) Reporting of installation anomalies, as for example exchangers with ineffective or missing dielectric joints.

**Boguard is patent pending at European level.**

## Selection guide

Tank capacity	nr. of features	nr. of anodes per system	Anode lenght
150 ÷ 500 litres	1	1	380 mm
750 ÷ 1000 litres	1	1	430 mm
1500 ÷ 5000 litres	1	2	430 mm



**Respect the environment!**

**For correct disposal, the various materials must be separated and conferred according to the normative in force.**

**Copyright Emmeti**

**All rights reserved. No part of this publication may be reproduced or distributed without written permission from Emmeti.**

**The data contained in this publication are subject to change in every time, for technical and commercial requirements.  
Emmeti are not responsible for eventual errors or inexactitudes.**



**EMMETI**

**EMMETI spa** - Via Brigata Osoppo, 166 - 33074 Vigonovo frazione di Fontanafredda (PN) - Italia  
Tel. 0434.567911 - Fax 0434.567901 - [www.emmeti.com](http://www.emmeti.com) - [info@emmeti.com](mailto:info@emmeti.com)



Rev. 0 - 10.2013 - Ufficio Pubblicità & Immagine - LP