
WAY AHEAD IN CORROSION CONTROL

TANKGARD

CORROSION CONTROL
FOR TANKS & VESSELS





Deepwater works with local partners (Such as Elite Energy Services in the Bakken area) to bring a turnkey service offering.



Heater Treater vessels provide up to 10 year life.

TANKGARD SYSTEMS

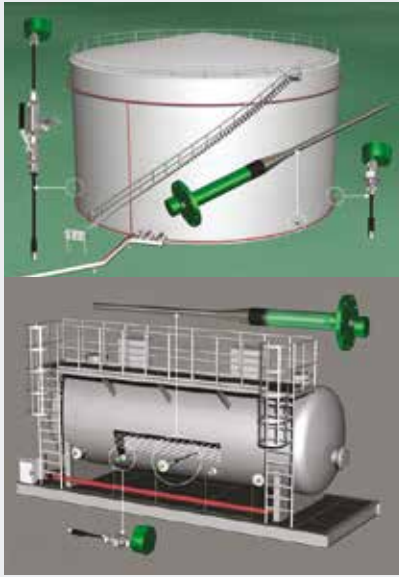
Improved cathodic protection technology for upstream vessel internals.

Current technology falls short in one of two ways, either the anodes systems used do not provide adequate CP levels or the systems do not deliver enough life. Replacing anodes can be expensive and may require the vessel to be shut in, there is always a risk associated with this operation.

TankGard systems provide the following improvements:

1. Impressed current systems for Heater Treater vessels provide up to 10 year life and provide verified fire-tube protection.
2. FlangeMate anode (ICCP) has been re-designed to improve reliability and reduce cost.
3. HP-1Z reference electrodes provide definitive protection level info that can be remotely monitored.
4. Green Head mount provides enhanced seal and reduced cost for sacrificial anodes replacing outdated Red Heads and Blue Heads. Larger anodes provide extended life with reduced waste.
5. Tank Link provides an extended life sacrificial option for SWD tanks and horizontal separators.





Deepwater has installed many systems dating from the late 1980's when the original TankGard system was developed.

THE IMPRESSED CURRENT SYSTEM

FLANGEMATE ANODE

Key Selling Points

- Low cost – high reliability.
- 10 year life minimum – eliminate frequent anode change outs.
- Potentially controlled maintains fire tube at protected potential under all conditions.
- Can be remotely monitored and controlled.
- Switch-mode power supply has four channels so up to four vessels can be protected and controlled from a single unit.
- Simple electrical installation, with turnkey service available if required.
- The Flangemate anode mount can power integrated cantilever anodes or floor mounted systems where cantilever is not possible such as for large tanks or horizontal vessels.
- FlangeMate can be provided with a 4" Victaulic cap, or 4" or 6" 150# flange.
- Floor mount systems can include an integral reference electrode for monitoring and control.
- Systems can be retrofitted into existing manway hatches.

THE SACRIFICIAL SYSTEM

TANKGARD GREEN HEAD

Key Selling Points

- Eliminates problems associated with Red-Heads and Blue Heads.
 - Eliminates potential leak path.
 - Eliminates waste – reduces cost.
 - One size fits all allowing protective levels to be optimized.
 - Only the anode casting is a consumable, redesign reduces waste by up to 50%.
- Longer life – Larger diameter anodes of any length up to 65" can be installed or system can be adapted to TankLink anode arrays for even longer life.
- Systems sold with Polatrak HP-1Z reference electrodes to facilitate accurate system performance and remote monitoring.
- Head assembly can be retrofitted to existing manway, or provided on a Victaulic cap or API flange interface.



Lower cost, longer life, improved protection and no leaks.



Links can provide up to three times as much capacity as standard cantilevered anodes.

ALTERNATE SACRIFICIAL SYSTEM

TANKLINKS

Key Selling Points

- Allows anode material to be introduced in large quantities and for high current demand through limited access points.
- Can be suspended or floor mounted or both.
- Can be grounded to tank in a variety of ways.
- Gives increased life over conventional designs.
- Cost effective, not tank entry required to install.
- Adaptable to many different vessel geometries.

THE VERIFICATION SYSTEM

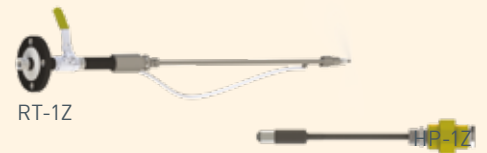
ELITE TUBESCAN

A proprietary MFL (Magnetic Flux Leakage) scanning system that can measure wall loss on fire tubes without having to shut vessel in. This system is available to all TankGard customers and gives absolute verification that corrosion control is 100%.



Key Selling Points

- Cost effective only a few hundred dollars per vessel.
- Does not require shut in.
- Can pinpoint % of fire tube wall loss very accurately.
- The ultimate verification that a corrosion control system is working effectively.



Monitoring Options

Polatrak HP-1Z and RT-1Z reference electrodes are simple to retrofit and allow remote monitoring and alarm of all CP systems. These electrodes are very reliable in oily water service at elevated temperatures.

Typically these electrodes require a 3/4" NPT access, but it is possible to customize for special applications using the HP-1Z E if a specific point within the tank needs to be accurately monitored. **These instruments are supplied as standard on many TankGard systems.**

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