

# CATHODIC PROTECTION SOLUTIONS

For New Construction and Existing Above Ground Storage Tanks



**Tank Ring Anode System App**

Visit our website to design your tank ring SPL™-Anode system!

[matcor.com/tankring](http://matcor.com/tankring)

MATCOR has developed an accurate, reliable and easy to install impressed current cathodic protection system for the bottoms of above ground storage tanks (AST's). MATCOR's unique SPL-Anode system with patented Kynex® technology is manufactured in concentric rings and ready for installation on a specific tank.

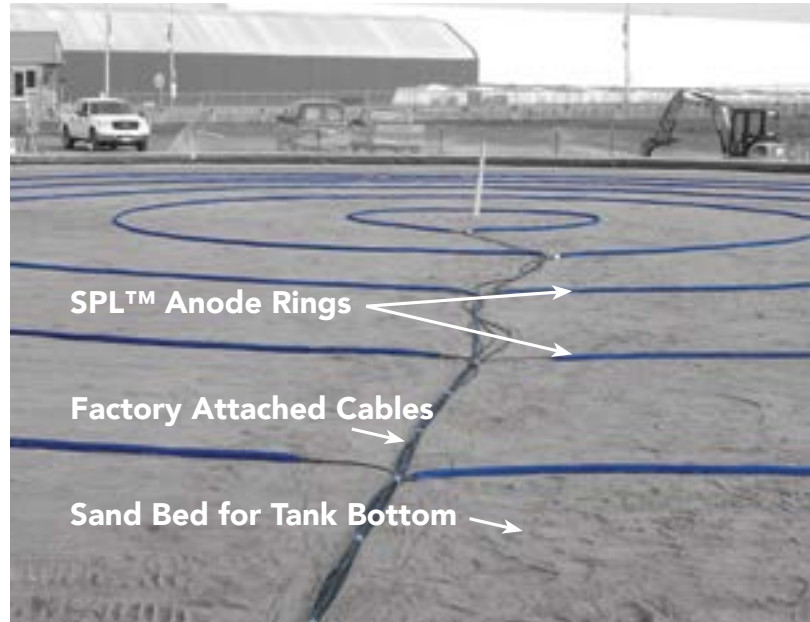
Once designed and manufactured by MATCOR, installation is as easy as laying out the rings per a drawing provided by MATCOR and connecting the header cables to the rectifier.

In addition to manufacturing, MATCOR provides complete design, engineering, construction, and installation for tank and tank farm cathodic protection systems.

There is no equal in cathodic protection.



*SPL-Anode utilized for Tank Ring Anode Systems*



## BENEFITS

Fast, easy installation

No welding, cutting or assembly of anode required – completely factory assembled and tested system ready to install

Systems available for new and retrofit tanks

Superior current distribution

Reliable Kynex® factory installed connection technology with redundant power fed from two directions – no under tank splices



*A 3-man crew installs one of the outer rings of a 240 ft diameter tank in just 8 minutes.*

# TANK RING ANODE SYSTEM

## SPL™-Anode System for Above-Ground Storage Tanks

### PRODUCT DETAILS

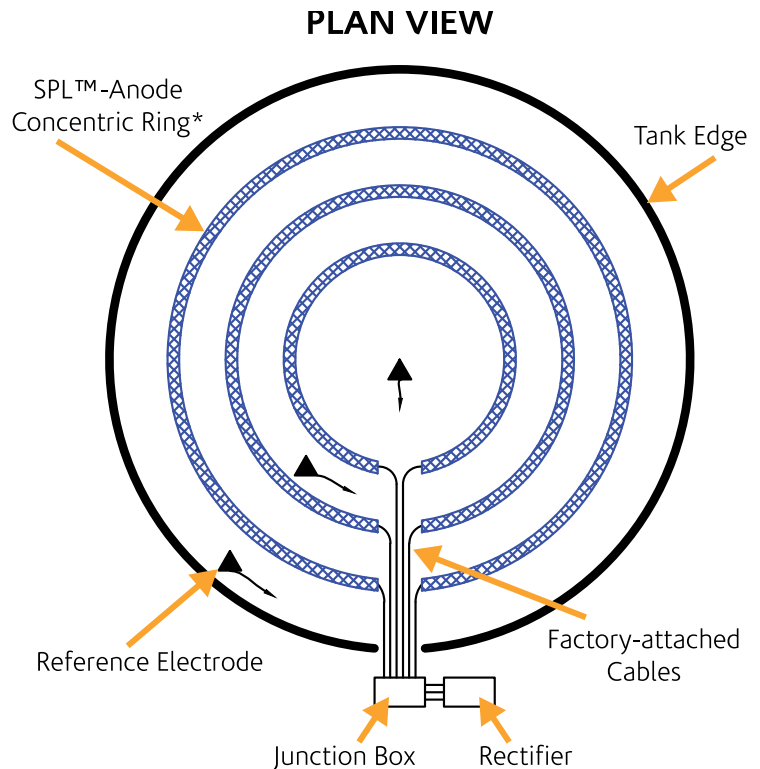
- Concentric SPL-Anode Rings manufactured to length and numbered for each position
- Available in all current output sizes
- Engineered anode placement with numbered anode rings
- MMO Anodes used in the SPL-Anode assembly
- Reliable Kynex® connection
- MATCOR installation drawing indicating layout of SPL-Anode rings and reference electrodes

### COMPONENTS

Each MATCOR Tank Ring SPL-Anode System includes the concentric rings cut to length per the MATCOR drawing. Each SPL-Anode ring includes a sufficient length of cable on both ends of each segment to reach the rectifier or junction box without splicing.

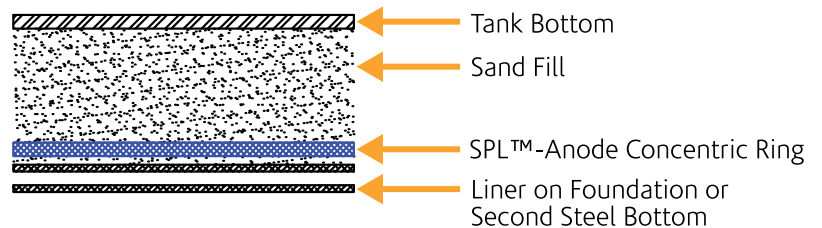
MATCOR also recommends the following optional equipment for a complete installation:

- MATCOR under tank CUSO<sub>4</sub> reference electrodes with sufficient cable to run to the junction box or rectifier
- Ground cables and reference electrodes
- Rectifier and junction box



\*Number of Rings Varies with Tank Diameter

### SECTION ELEVATION



**CONTACT A CORROSION EXPERT**

+1 800 523 6692  
[matcor.com](http://matcor.com)



## STATE OF THE ART HDD EQUIPMENT

The use of advanced HDD technology allows for the installation of linear anodes and reference electrodes under existing tanks with non-shielding secondary containment liners.

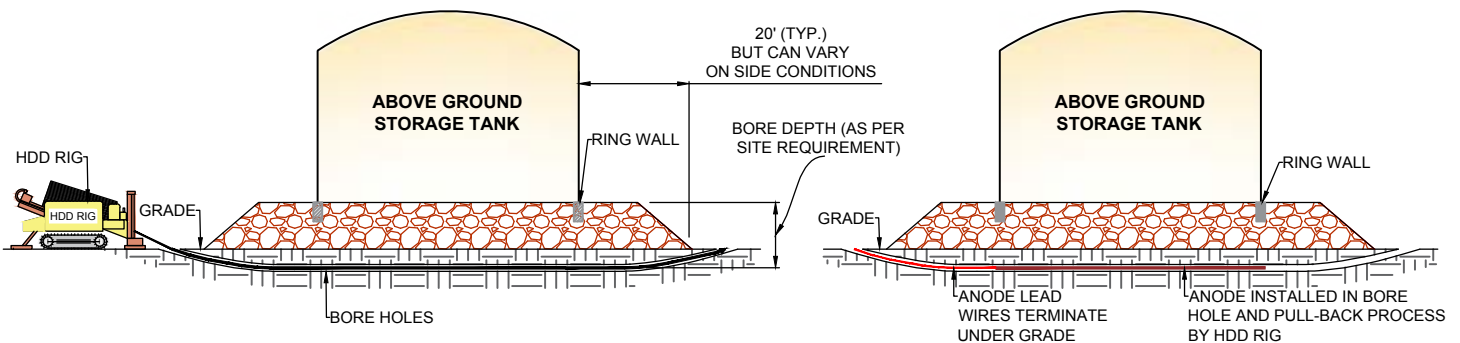
MATCOR's fleet of HDD rigs are operated by highly experienced drillers utilizing the latest electronic tracking technologies to assure the highest degree of safety and reliability during the critical drilling operations.

## ANODE SOLUTIONS

Standard **MATCOR SPL-FBR** anode assemblies consisting of an MMO wire anode in a factory packed coke backfilled sock designed for long life (typically 50+ years)

Our patented **Iron Gopher®** linear anode technology provides a packaged anode designed specifically for difficult HDD installations

MATCOR's **Replaceable Tank Anode** (RTA) design utilizes a bare MMO anode assembly and vent pipe installed in a slotted PVC housing with coke backfill installed pneumatically. These anodes can be replaced at the end of their useful life





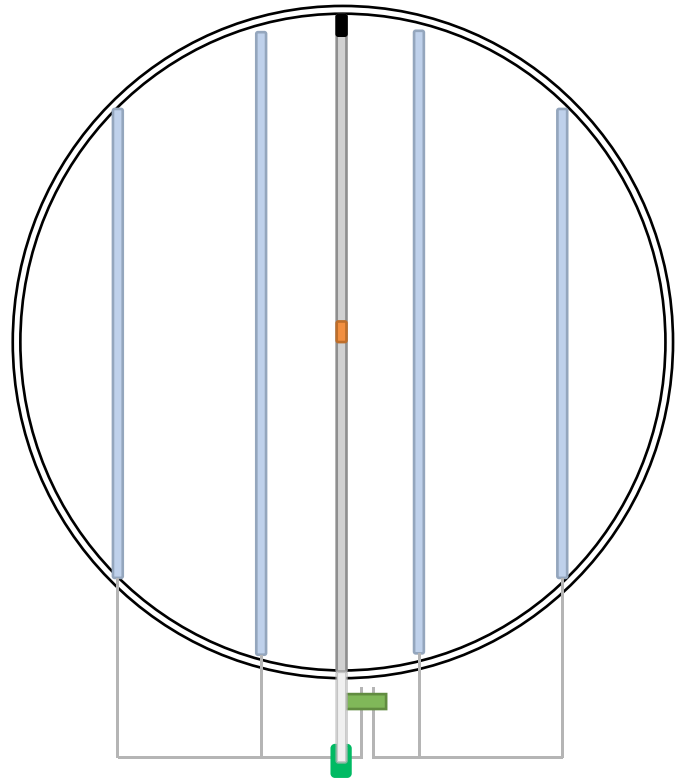
# HORIZONTAL DIRECTIONAL DRILLING

For new and existing tanks without shielding secondary containment liners

## COMPLETE SYSTEM INSTALLATION

MATCOR can provide a complete system solution including:

- MATCOR MMO anode assemblies
- Reference Electrodes
- Vent pipe
- Cable - Kynar® available for corrosive environments
- Junction Boxes
- Rectifiers



## BENEFITS

Entire system can be installed in one visit

Long life MATCOR linear anodes

Range of configurations and outputs reliably installed under existing tank

Replaceable configuration available

Reliable Kynex® connection technology with redundant power fed from both ends of the anode

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# CORE DRILLED ANODE SYSTEM

## CP Life Extension or Reference Electrode Installation

### CORE DRILLING WHEN FULL TANK BOTTOM REPLACEMENT IS NOT YET WARRANTED

The options to replace existing depleted cathodic protection systems or inoperative reference cells on existing tanks are rather limited.

If the existing tank bottom has not yet reached the point where a full tank bottom is warranted, then core drilling provides a solution.

MATCOR has developed an installation procedure that allows us to safely install additional anodes and replacement reference cells that can add service life and improve CP monitoring.

MATCOR's proprietary hydrovac displacement and wet sand delivery replenishment assures an intimate contact between the anode or reference cell and the sand around it.

The exact length to which core drilling can reach varies at each core drill location thus requiring field adjustments for the best performance possible to extend the life, improve the current distribution or provide additional monitoring capabilities.



*Core Drilling to install new reference electrode.*

### BENEFITS

Fast, easy installation

No welding, cutting or assembly of anode required – completely factory assembled and tested system ready to install

Systems available for new and retrofit tanks

Superior current distribution

Reliable Kynex® factory installed connection technology with redundant power fed from two directions – no under tank splices

# WATER TANK ANODE SYSTEMS

## Cathodic Protection Solutions for Internal CP Systems



### INTERNAL WATER TANK SYSTEMS

Above ground water storage tanks are often equipped with internal cathodic protection systems to supplement the interior coating system that is commonly used for these structures.

MATCOR manufactures our PF™-Anode, a proprietary MMO wire anode based impressed current anode available to customized lengths and configurations. It includes a chlorine resistant Kynar® braiding to protect the anode against electrical shorts and is available with integral reference electrode(s) and bottom weight.

The anodes come in a range of current output ratings and are NSF/ANSI 61 compliant.

### TYPES AND CONFIGURATIONS OF INTERNAL WATER TANK SYSTEMS

#### Galvanic

- Suspended from top
- Welded/bolted to side and bottom

#### Impressed Current

- Vertical suspended with weights
- Vertical attached to bottom with floats
- Vertical attached to top and bottom
- Horizontal tension systems



*MATCOR's PF-Anode provides cathodic protection for water tanks, water wells and other aqueous environments.*

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# FULL SERVICE TANK CP PROVIDER

Design, Installation, Construction, Testing and Repair Services

## DESIGNING YOUR TANK SOLUTION

Contact MATCOR to discuss your specific tank cathodic protection needs. For our Tank Ring Anode systems, we provide an on-line calculator.

Before calling MATCOR to discuss your tank solution needs, some common information we typically require includes:

- Is this a new or existing tank
- Tank dimensions
- Type of secondary containment liner (if present)
- Tank operating temperature
- Foundation details/drawings
- Any applicable specifications
- Life of system desired; systems can be 20 to 100+ years



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*MATCOR Tank Ring SPL-Anode Installation*

## INSTALLATION

MATCOR performs complete anode system installations. We offer a unique combination of high quality anode system materials, experienced installation personnel and state of the art equipment to provide complete installation services.

## COMMISSIONING/TESTING

MATCOR technicians and engineers are available to provide commissioning, testing and troubleshooting services. We can provide an assessment of your cathodic protection systems' performance.

### REGIONAL OFFICES

CO	303	407	2707
GA	404	884	2759
OK	405	293	9777
PA	215	348	2974
TX	281	558	2600

