

ProAct™

MMO PROBE ANODE

PRODUCT DESCRIPTION

Probe anodes are mainly used in impressed current cathodic protection systems for the internal surfaces of pipes, water tanks, pressure vessels, and similar equipment.

The probe anode uses an MMO rod anode as its main element and incorporates an advanced sealing system consisting of a water-stop valve, O-ring, and epoxy resin. This sealing arrangement allows the anode to operate in high-pressure environments. The anode casing is made of stainless steel. Each finished anode is tested for watertight sealing and electrical insulation resistance to verify compliance with the design requirements.

PRODUCT PERFORMANCE

Electrochemical Safety Performance

- When the protected structure is maintained within the cathodic protection potential range of -0.85 V to -1.2 V (vs. CSE), the MMO probe anode provides stable current output under specified operating conditions. Gas generation, where applicable, shall be evaluated based on electrolyte composition, operating current, ventilation, and installation environment.

Corrosion Resistance

- Excellent corrosion resistance, suitable for applicable aqueous electrolyte environments.

Coating Consumption Rate

- Low and uniform coating consumption rate ensures predictable performance during long-term operation.

Service Life

- Long service life under designed operating conditions reduces maintenance and replacement frequency.



PRODUCT FEATURES

Installation Convenience

- Designed for easy installation and can be installed from the outside through the wall of the protected equipment.

Compact Design

- Small size and lightweight design allow convenient handling and installation.

Mechanical Robustness

- Robust mechanical design provides good structural stability and reliable field performance.

Custom Engineering Capability

- Coating formulation and production process can be customized according to customer requirements to meet different current density and service life demands under various operating conditions.

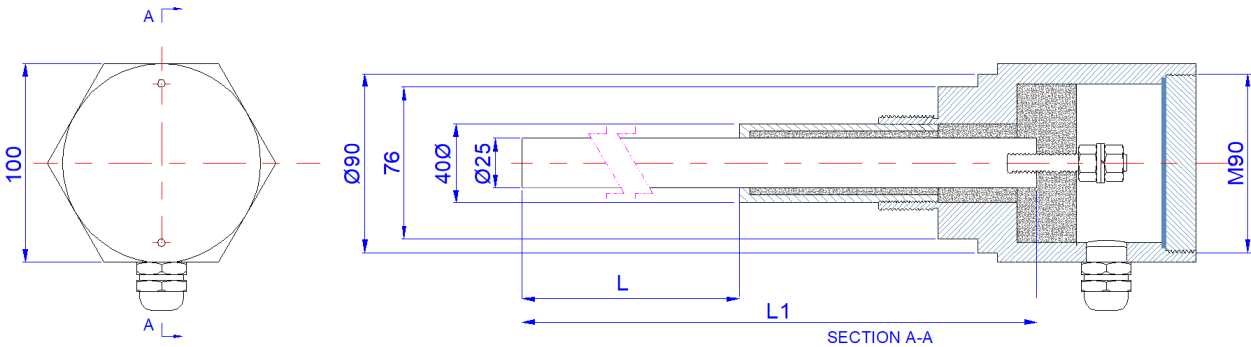
Reference	Title
API RP 651	CATHODIC PROTECTION OF ABOVE GROUND PETROLEUM STORAGE TANKS
NACE RP0285	CORROSION CONTROL OF UNDERGROUND STORAGE TANK SYSTEMS BY CATHODIC PROTECTION
NACE SP0388	IMPRESSED CURRENT CATHODIC PROTECTION OF INTERNAL SUBMERGED SURFACES OF STEEL WATER STORAGE TANKS
EN 12954	CATHODIC PROTECTION OF BURIED OR IMMERSED METALLIC STRUCTURES-GENERAL PRINCIPLES AND APPLICATION FOR PIPELINES
EN 13636	CATHODIC PROTECTION OF BURIED METALLIC TANKS AND RELATED PIPING

PRODUCT PARAMETERS

Substrate Composition								
Standard	Fe %	C %	N %	H %	O %	Other Impurities (Single)%	Other Impurities (Total)%	Ti %
ASTM B338 Gr1	≤0.20	≤0.08	≤0.03	≤0.015	≤0.18	≤0.1	≤0.4	Remainder
Electrochemical Properties								
Application				Current Density			Life	
Sea Water				600 A/m²			20 Yr	
Coating								
Coating crystal density is 6-12 g/cm³, coating resistivity is 9-11 mΩ·cm								
Coating Thickness								
≥ 8.0 μm								

MODELS AND SPECIFICATIONS

Model	Anode Diameter	Total Length	Effective Length	Surface Area	Current Output	Life	Coating Thickness
AT-MMO-R25-600-Se	25 mm	600 mm	450 mm	0.04 m²	24 A	20 Yr	≥ 8 μm
AT-MMO-R25-800-Se	25 mm	800 mm	650 mm	0.05 m²	30 A	20 Yr	≥ 8 μm



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